

Chemical Week

October 3, 1953

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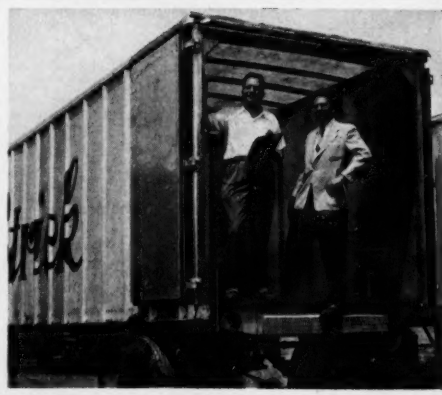


- **What's the shape of today's end-use patterns? Hathaway's agency will research, report p. 13**

You can't fight weather, so exploit it; here's how companies cash in on forecasts p. 45



- **Diffraction research outruns textbooks; learning-doing sessions point up progress p. 52**



- **Chemical shippers assess pros, cons of lightweight, plastic trucks p. 59**

Booming metals output spells booming chemical consumption; which, where, how much . . p. 73

KETONES

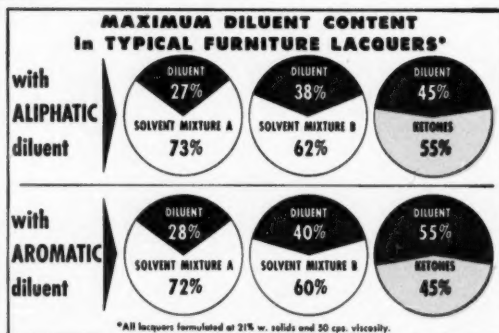
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Chemical Week

Volume 73 • October 3, 1953 • Number 14

OPINION	2	RESEARCH	52
NEWSLETTER	9	DISTRIBUTION	59
BUSINESS & INDUSTRY	13	MARKETS	69
PRODUCTION	45	SPECIALTIES	77



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October 3, 1953 • Chemical Week

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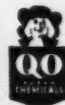
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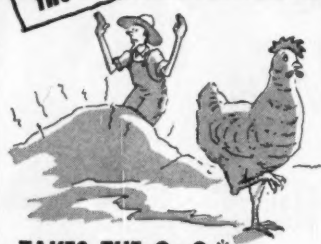
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OPINION

Rugged Unicellulars

TO THE EDITOR: In the picture item you published of the solar evaporation project at Lake Texcoco, Mex. (Sept. 12) . . . it is mentioned that contrary to the rule of biochemistry (that salt solutions of higher than 1% concentration will not support life) . . . "the 10-15% solution accumulating in the evaporator . . . has been known to burst forth unexplainably with primitive vegetable and animal life."

. . . If highbrow biochemists read CW . . . they may be interested in knowing that while I was engaged in bottom-of-the-world chemistry at the Dead Sea, Dr. Volcani of the Rehovot Agricultural Station isolated some unique forms of unicellular life happily maintaining their unicellular habits in the Dead Sea . . . with its over 20% of salts content . . . more than half of it magnesium and calcium chloride.

Just as a matter of friendly rivalry with our Mexican friends, I may point out that the solar pans of the Dead Sea industry averages about 4,000 tons a day of deposits—sodium chloride, carnallite and bischoffite . . .

M. MERLUB-SOBEI
Cleveland, O.

(Formerly Technical Manager
Palestine Potash, Ltd.)

Cleaner Controversy

TO THE EDITOR: We have all appreciated the way you stood up to *Good Housekeeping* . . .

I am sure that you and a good many of your readers will be interested in the October issue of the *Reader's Digest*. . . It contains a complete vindication of dip-type silver cleaners . . .

HARRY N. WESSLE, JR.
President

Lewal Industries, Inc.
New York, N. Y.

Gem or Lemon?

TO THE EDITOR: As a cover-to-cover reader, I couldn't help noticing that story on Monsanto's "cortical" activities ("Synthesis from Scratch," Sept. 5) was not "up to snuff." How sophomoric to describe a new and commercially untried process in a highly competitive and fast-changing field as "one of the most highly prized gems of pharmaceutical manufacture." It is safe to guess that Charley Thomas himself doesn't expect to know for

years yet whether he has a gem or a lemon.

The close comparison of the Monsanto 28-step synthesis to the Merck 30-step method should have been cited at the outset. Instead, this was tacked on the end apparently as an editorial attempt to restore balance to a badly slanted piece.

The statement, "Toluene, starting material for the synthesis, also presents no supply problem" should be comical when following a list of materials including commercially unavailable diazomethane and expensive silver compounds; . . . (In the same vein you might observe that there will be no shortage of steel for corset staves this year.)

Besides . . . CW tries too hard to pat itself on the back. Was the May 5 prediction that ". . . a cheap all-synthetic cortisone is just around the corner" actually fulfilled in ". . . three months to be exact"? Oh, no! Despite the progress in the interim, CW observed in August that "there's no guarantee that a practical large-scale process will be developed."

Like some politicians, CW takes a resolute stand while perched firmly astride the fence.

KENNETH W. GREENLEE
Dept. of Chemistry
Ohio State University
Columbus, O.

Rather unsporting, Reader Greenlee, to pick up a few sentences in our report, lift them out of context, and ignore a number of our other statements:

Point one: Would anyone deny that the entire pharmaceutical industry does not now regard the total synthesis of cortisone as a "prized gem"?

Point two: The Merck synthesis was reported in CW the week that it was revealed (Oct. 25, '52); even as the Monsanto synthesis was described the very week it was revealed.

Point three: Toluene is a basic raw material—as we said; and a synthesis starting with abundant raw materials has been the long-standing goal of cortisone research. The other compounds, are, as we clearly stated, reagents. Moreover, we said that most

CW welcomes expressions of opinion from readers. The only requirements: that they be pertinent, as brief as possible.

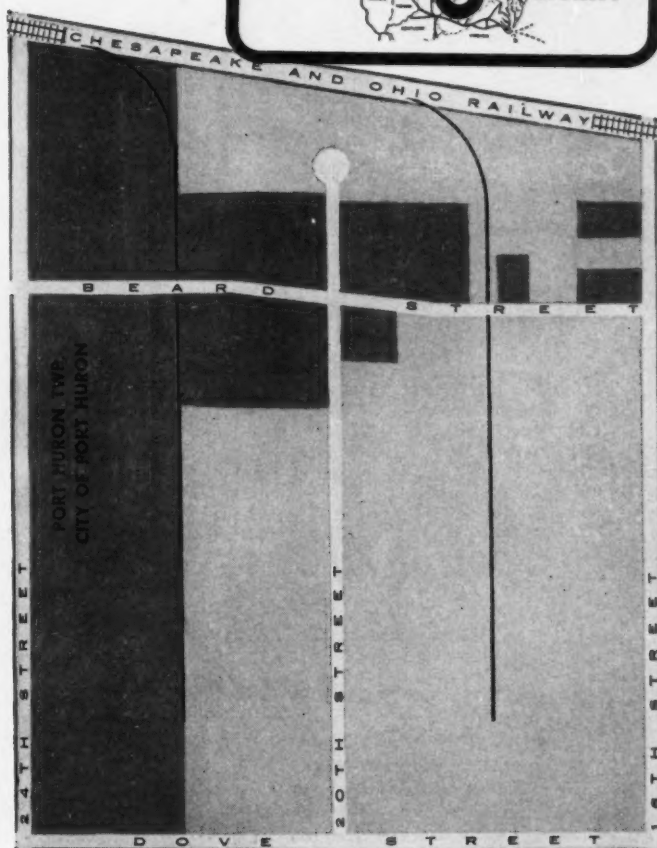
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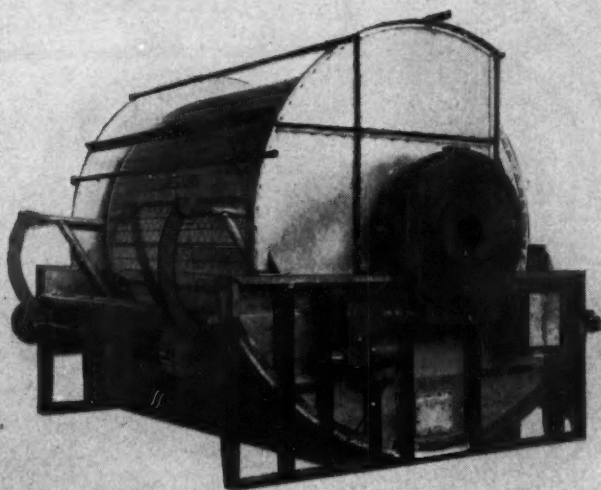
600 feet deep and as wide as desired. Several other properties are also available in the Port Huron area. All are on the railway and range from 6 to 152 acres.

For a Pin-Point Survey giving full information on Port Huron or other industrial sites, write to either the Chesapeake and Ohio Railway, Industrial Development Department, Cleveland 1, Ohio, Detroit, Michigan, or Huntington, West Virginia or address your inquiry to the Industrial Development Corporation of the Port Huron-Marysville area, 1109 Military St., Port Huron, Michigan.

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OPINION

(but not all) are commercially available.

Point four: In discussing the Monsanto synthesis (Sept. 5) CW said: "There still isn't any guarantee of a commercial process. But don't bet against it." Any bets?

Point five: Our references to previously published news stories are not "pats on the back"—they're inserted to facilitate reader reference to earlier developments.—Ed.

Mousetrapped

TO THE EDITOR: Maybe I am wrong but I think your Opinion Editor has let himself be mousetrapped by one of your correspondents. A letter in your Sept. 12 columns is headed "To Ameliorate Problems." This is a quotation from the letter . . . and might be excused . . . except in your editorial comment on the letter you say: "Buyers and sellers could ameliorate their problems . . ."

Ameliorate means to make better by making bigger. Thus an engineer can ameliorate his chances for success by eliminating problems, but he would hardly improve his outlook by making his problems bigger . . .

What we have to do with problems is to alleviate them . . .

D. S. VOLKMAR
New York, N. Y.

You may well be right, Reader Volkmar, but we can't prove it by Webster's, Funk & Wagnall's, or Fowler's Modern English Usage. The dictionaries agree that "ameliorate" means "to make better" but they don't add nor do they imply ". . . by making bigger." Nevertheless, we agree that problems should be "alleviated" rather than "made better."—Ed.

"Top Dogs"

TO THE EDITOR: We have been avid readers of CW for many years . . . both top management and supervisory personnel . . . But I, who have always found you to be fair and objective, was quite surprised and somewhat disappointed to find you had mentioned only four companies in your report on finishes for coating plastics . . . They were cited as "top dogs" in the field . . .

Surely you must have known of us and others who have been supplying coatings for use on plastics for many years . . .

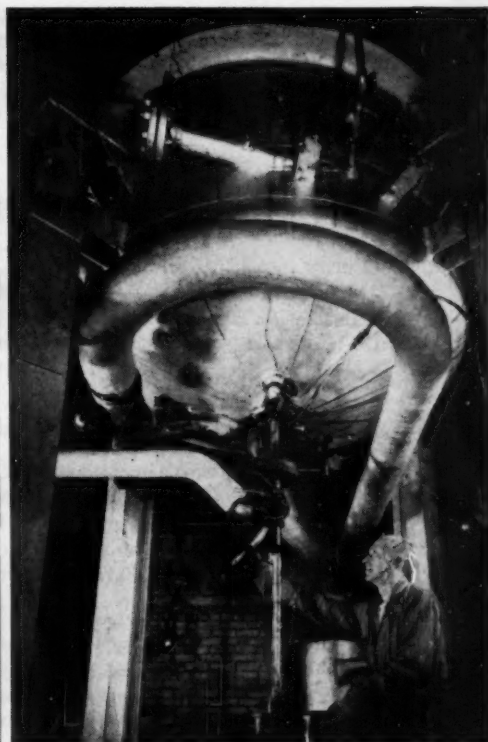
We, for instance, are considered by the plastics industry to be one of the pioneers . . . including highly specialized coatings no other manufacturer is equipped to supply.

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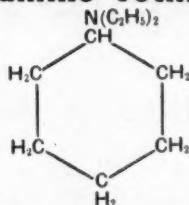
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OPINION

want us to call this to your attention so that no reader is given the . . . impression that there are only four "top dogs" in the field of such coatings . . .

It is our opinion that this type of coating may be obtained from most reputable lacquer manufacturers . . .

B. F. AMES
Sales Manager
Maas & Waldstein Co.
Newark, N. J.

We're both right. It's true that hundreds of lacquer manufacturers make and sell these specialty coatings, as well as other products for other purposes. But it is also true, as we said, that the four companies we mentioned have the lion's share of the business among those concerns that confine their activities only to making such coatings for plastics.—Ed.

DATES AHEAD

American Coke and Coal Chemicals Inst., annual meeting, Greenbrier hotel, White Sulphur Springs, W.Va., Oct. 12-13.

Assn. of Official Agricultural Chemists, annual meeting, Shoreham hotel, Washington, D. C., Oct. 12-14.

Commercial Chemical Development Assn., fall meeting, Hotel Kenmore, Boston, Mass., Oct. 15.

American Inst. of Chemical Engineers, South Texas Section, annual technical session, Galvez hotel, Galveston, Tex., Oct. 16.

Salesmen's Assn. of American Chemical Industry, chemical sales clinic, Commodore hotel, New York, N. Y., Oct. 19-20.

Natl. Paint, Varnish and Lacquer Assn., annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., Oct. 26-28.

Assn. of Consulting Chemists and Chemical Engineers, annual meeting, Belmont Plaza hotel, New York, N. Y., Oct. 27.

American Oil Chemists Society, fall meeting, Sherman hotel, Chicago, Ill., Nov. 2-4.

American Council of Commercial Laboratories, annual meeting, Sheraton-Cadillac hotel, Detroit, Mich., Nov. 4-7.

American Petroleum Inst., annual meeting, Conrad Hilton hotel and Palmer House, Chicago, Ill., Nov. 9-12.

Chemicals Industries Exposition, Commercial Museum and Convention Hall, Philadelphia, Pa., Nov. 30-Dec. 6.

Chemical Specialties Manufacturers Assn., annual meeting, Mayflower hotel, Washington, D. C., Dec. 6-8.

American Chemical Society, regional meeting, Jung hotel, New Orleans, La., Dec. 10-12.



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NEWSLETTER

Economics-minded industry men will do well to study the new 777-page volume, "Employment and Wages in the United States," prepared for the Twentieth Century Fund. The higher-than-average investment per worker in the chemical industry sets it up as a favorite target for unions' argument that a worker's wages should rise commensurately with the value of his output (CW, Aug. 29).

W. S. Woytinsky, author of the report, blasts this argument to smithereens. No group—capital, management, or labor—should be arbitrarily assigned the benefits of increased productivity, he contends. Capital should be accorded no special consideration because it is used to buy better tools; management is only doing its job by keeping its facilities up to date; no more is demanded of labor—nor should labor feel entitled to more—simply because it is operating more productive tools.

The benefits are—and should be—distributed, he claims, by the countless bargainings consummated daily by all these groups, and such, of course, are the essence of a free market economy.

•

Another chemical process firm, Phillips Petroleum, has joined the exclusive Over-a-Billion Club—the 30 U. S. corporations with assets totaling over \$1 billion. Growing rapidly in oil, gas, refinery products and a variety of chemicals, it has doubled its size in the past five years, quadrupled in a decade.

•

Look for fireworks about stockpiling. Several Congressional committees are considering probes into charges that General Services Administration's emergency procurement service has mismanaged purchase of strategic defense items.

What they hope to turn up isn't clear; GSA Administrator Edmund Mansure says he welcomes investigation, is confident his agency will be vindicated.

Best bet is that probe pressure is exerted by the ailing domestic mining industry, which is unhappy about the volume of minerals purchased abroad. Its representatives are likely seeking ammunition for use when reciprocal trade policies come up for Congressional discussion.

•

A decision on coumarin will be made soon by Food & Drug Administration. Manufacturers of the flavoring agent voluntarily withdrew it from food use after animal studies showed some evidence of toxicity. Pharmacologist Lloyd Hazelton contended in a public hearing that the compound is "a poisonous and deleterious substance." But under cross-examination by the Assn. of Cocoa & Chocolate Manufacturers he admitted that (1) no toxic effects had ever been observed in humans; (2) in his tests he had used the material at higher concentrations than are normally encountered; (3) he had employed synthetic rather than natural coumarin.

FDA is accepting written briefs until October 15.

•

From now on it's Aureomycin and Terramycin—not aureomycin and terramycin. The names have been registered as trademarks by Lederle

and Pfizer, respectively. Chemically related, the two antibiotics have been assigned coined generic names' chlortetracycline and oxytetracycline, derived from an until-now-mythical parent compound.

But late last week Lederle & Pfizer chemists simultaneously described tetracycline itself—a new antibiotic without Aureomycin's chlorine or Terramycin's hydroxyl group. It's too early to tell whether the new drug will carve out a commercial niche for itself, since only test-tube studies—no animal or human tests—have been made; but the preliminary results are promising.

More important, the basic skeleton provides a basis for additional modifications, some of which could prove more potent than the present antibiotics.

•
The big five Canadian rubber makers who pleaded guilty last spring to violation of the Combines Act (CW Newsletter, Apr. 18) didn't wince when the court levied fines of \$10,000 each, but now they're objecting to the rest of their sentence.

The five—Goodyear, Gutta Percha, Dominion, Dunlop and Goodrich—will seek annulment of an injunction restraining them from further combine activities. This appeal may well lead to the first test of the Combines Act's enforcement section.

•
Chemical industry growth during the next 5 to 10 years will equal or exceed the 10-12% annual growth over the past 30 years, says Monsanto Vice-President John Gillis. But he qualifies it with a big if: if consumer purchasing power is maintained. Asserting, "We tend to overestimate government purchases . . . in terms of total demand," he advocates cuts in personal income taxes and government spending.

•
Echoing this kind of optimism, a Grace Chemical spokesman told a Memphis audience last week that the firm is seriously considering chemical expansion in the area in addition to its \$20-million ammonia plant now under construction. Hinted at: production of additional chemicals at Memphis, necessitating expansion of the Memphis plant; purchase or construction of new plants at Memphis or elsewhere. The ammonia plant is Grace Chemical's initial—and so far only—operation.

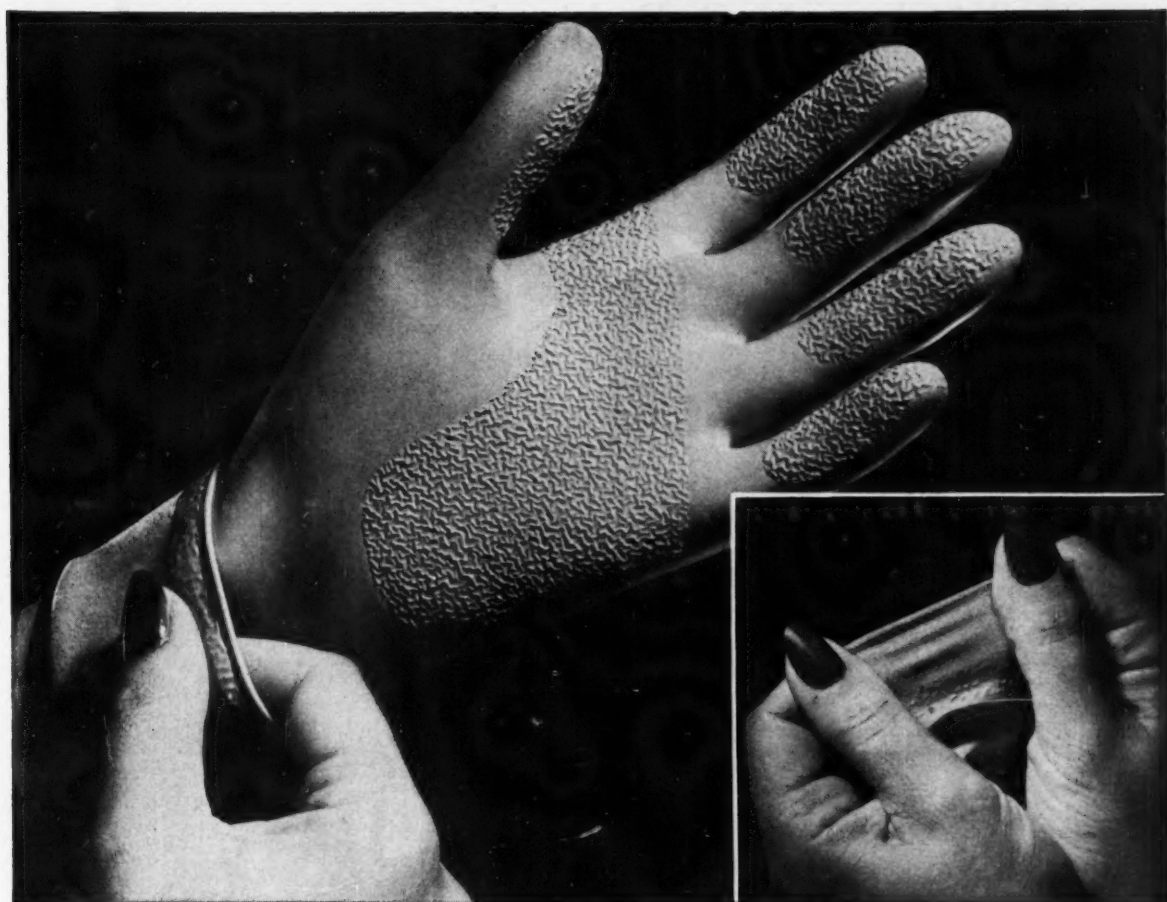
•
Two perennial problems—pollution and fluoridation—continue to plague local government officials:

- In Louisville's Rubbertown, nine plants pour into the air 470 tons/day of dust and other contaminants, say city-county officials, who will now meet with the managers of the individual plants. They'll consider what can be done about it. If the plants are doing the best they can, "it leaves them with the alternatives of adopting new equipment or methods, or changing fuels. Otherwise the commission will have no choice but to devise strict standards with which to force them to clean up."

- In New Mexico, state officials last week told local waterworks superintendents that the state holds to a "hands off" attitude toward fluoridation. It's a local, grass roots problem, they say, and should be decided locally. Meanwhile, after a year of fluoridation, San Diego (Calif.) is running into legal headwinds. One vociferous opponent, having lost his suit for an injunction in lower courts, is appealing to the state supreme court; and now several property owners are circulating petitions to demand a referendum on the issue. Groups are already aligning on both sides.

... The Editors

Another new development using **AMERICAN ANODE** *materials*



WE GAVE THEM A NEW INNER SKIN—for more comfort, longer life

MANY types of household rubber gloves are hard to put on and take off, or become uncomfortable and clammy from perspiration. Problems that housewives and others have long hoped would be solved.

Well, here's a glove that takes care of those problems and more!

It has a smooth, flock lining that feels like fine suede. Gloves slip on and off easily. The flock

absorbs perspiration—dries quickly if wet. And what makes the flock lining work so well is a special adhesive developed by American Anode.

The adhesive holds the flock tightly to the inner surface of the glove. Moisture, body acids, etc. can't affect the adhesive and cause loosening of the flock. The adhesive won't harden with age; it remains permanently flexible, gives

the gloves added life.

Developing a material to help improve these household gloves is typical of the many jobs American Anode does—jobs that solve product problems and help sales appeal.

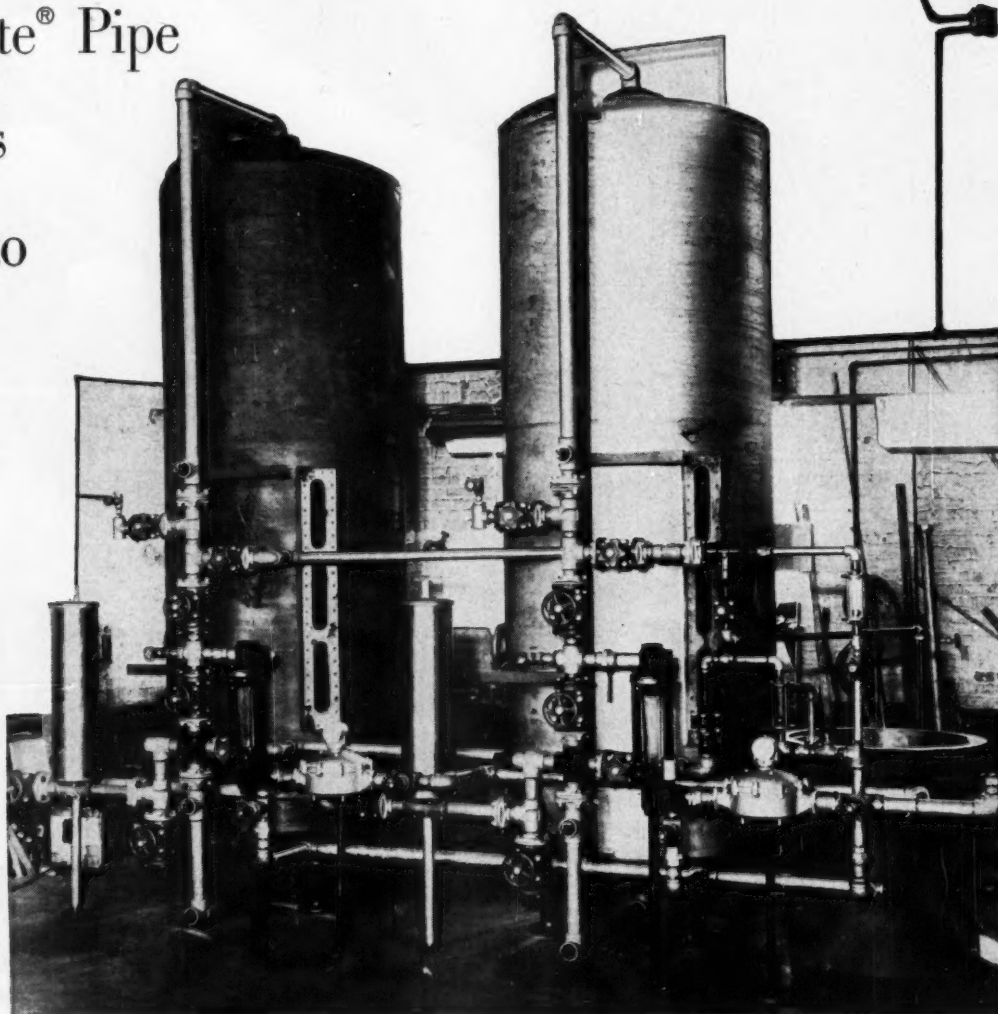
Perhaps we can help you—wherever latices or plastisols are involved. Let's talk it over. Write Dept. AA-10, American Anode, 60 Cherry Street, Akron, Ohio.

AMERICAN ANODE

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BUSINESS & INDUSTRY . . .



COMMERCE'S HATHAWAY: Service, not red tape.

For Value Received

Businessmen are skeptics. They have to be to stay businessmen.

As a result, there has been quite some leering over new government agencies. A case in point: the business and services administration the Dept. of Commerce plans to form from the remnants of the Korea-born National Production Authority.

Establishment of the new agency has been delayed three months so far, in part because of what could best be described as industry unenthusiasm. Show us, say executives, what these business services are that we're to get.

An answer to the problem—at least as far as the chemical industry is concerned—has been worked up by Norman Hathaway, new director of NPA's chemical and rubber division. In his work as Davison Chemical's industrial sales manager, Hathaway has seen the need for dependable end-use figures for products he sold. He saw this as an NPA goal at the time he began his six-month stint with the government.

Thus, this week his division is com-

pleting a report on the end uses of benzene; it also is well along on a similar study on sulfuric acid.

The benzene report, which will cover 1950-52 supply and consumption, will be the model for succeeding studies, Hathaway reports. It will tally total supplies from domestic production and imports, and will break down consumption by end products.

Go to the Source: Basis for the studies will be the mass of data now in the NPA chemical and rubber division files. These include reports submitted in 1950 on existing capacity and planned expansion, individual company applications for certificates of necessity and the reports on consumption, production and plant stocks required from industry by NPA until early this year. Data on over 200 chemical products are found in NPA files.

Hathaway plans to periodically update the distribution studies with production and inventory data collected quarterly or monthly by the Tariff Commission, Census Bureau and Bureau of Mines on about 125 chemicals.

In addition, he hopes that industry, seeing the value of such distribution studies, will give further information to his agency on a voluntary and unofficial basis.

On consumption reports to his office, Hathaway wants to avoid another monthly "reporting ordeal" for the chemical industry. He feels such reports could be made on an annual basis.

Seducing the Secrets? The question has been posed to Hathaway that some companies might squawk about submitting confidential information to him—an official on leave from a possible competitor. He pooh-poohs the notion for two reasons. In the first place, he says, the reporting he wants will be so shaped that company secrets will not be involved. For another, he feels that the past record of industry executives who came to Washington on a rotation basis shows that this fear is groundless. Too, the number of industry men in NPA is greatly below mobilization level. There are now only two in the chemical and rubber division, Hathaway and Howard Gaetz of U.S. Rubber.

Hathaway's term as director of the chemical and rubber division will be up next February, when his place will be taken by another industry man serving without compensation (WOC). Organizational continuity in the division will be maintained via a career-civil-servant deputy, Lowell Kilgore, a long-time NPA official and former War Production Board executive.

Another Problem: For the new agency in general, and for Hathaway specifically, industry's so-far phlegmatic reception to the business services offered is but one problem.

The idea of compiling such statistics as chemical end-use information by the NPA is something long bruited within the chemical division. But when the funds appropriated by Congress were so far below what had been asked for by the Eisenhower administration (CW, Aug. 15), even the continuance of current activities was in doubt.

Thus, Hathaway is presently fighting for an allocation of about \$20,000 from other Commerce funds to continue. His success in obtaining money for future reports may easily hinge on the reception industry accords the end-use studies now in preparation.



HIGH COURT'S JUSTICES* AND VACANCY: For nation's top tribunal, a new chief justice, two cases affecting gas chemicals.

Black Robes, Gas-Bill Blues

Like the necktie that dangled in the borscht, the whole complexion of economics in the chemicals-from-natural-gas business may be changed by decisions in the U.S. Supreme Court's annual nine-month session that begins next Monday.

This will be the first time in 12 years that the high court has operated under a chief justice appointed by a Republican President, and much depends on the views and principles of whomever Eisenhower selects for that lofty post. Of course, the chief justice has only one vote, but the weight of his intellect and personality plus the prestige

of his judicial background can have considerable influence in the discussions in which the justices reach their decisions.

In public interest, none of the approximately 500 cases already on the docket compares with the school segregation issues. But some of the cases with smaller headline rating can be of vital concern to various industries. For the chemical industry, probably the two most important cases are on the Texas state gas-gathering tax and the attempt to put natural gas producers' rates under Federal Power Commission's regulating authority.

Location Quandary: The latter case, which the Supreme Court is considered almost certain to accept for review this term, is one that might break the Gulf Coast area's near-monopoly on petrochemical plants that use natural gas as raw material. In this case, Phillips Petroleum Co. is the principal plaintiff and the state of Wisconsin and several large northern cities are the main respondents.

Last May, the U. S. Court of Appeals in Washington reversed the FPC and held that, willing or not, the FPC has jurisdiction over price rates charged by natural gas producers when they sell to interstate pipeline companies. This was just what Wisconsin and its allies wanted. Phillips now is asking the Supreme Court to overturn that verdict, arguing that such reversal would not only be in accord with the law but would also be good for the national economy.

Federal control, warns Chairman K. S. Adams of the Phillips board, would be "the sugar-coated route to less natural gas at higher prices." Further, he contends that the threat of FPC regulation of producers' gas rates is hurting chemical and other industries and causing non-gas-producing states to be neglected in construction of new petrochemical plants. If this threat were removed, more natural gas would move through long-distance pipelines, and chemical companies could take advantage of freight

Cheaper to Ship Chemicals—or Gas?

Cost for hypothetical petrochemical plant

At Houston, Tex. At Louisville, Ky.

Price of natural gas to make a ton of 37% formaldehyde*	\$ 1.66	\$ 5.00
Cost of railroading a ton of 37% formaldehyde to New York**	39.64	25.90
Total of these two cost factors	\$41.30	\$30.90

* Based on rates of 15¢ and 45¢ per 1,000 cu. ft., respectively.

** Based on rates of \$1.68 and \$1.10 per 100 lbs. (plus 15% authorized increase and 3% federal tax) on 37% formaldehyde in drums. (Cost of water shipping large quantities of formaldehyde from Houston to New York would be cheaper than by rail.)

* Back row, Associate Justices Clark, Jackson, Burton, Minton; front, Frankfurter, Black, Reed and Douglas.

rate differentials to locate new plants nearer their big markets (*see table*).

Left Pocket, Right Pocket: In the other big natural gas case slated to come before the Supreme Court this term, chemical companies affected are merely waiting to see whether they'll have to pay a state tax out of their left- or right-hand pocket. Texas has been levying a tax of 9¢ for each 20,000 cubic feet of natural gas gathered in the state, and the gas companies have passed this cost on to their customers—many of whom are chemical firms using natural gas both as feedstock and fuel.

Fifty-nine pipeline companies—notably Michigan-Wisconsin and Panhandle Eastern—have been battling against this gas-gathering tax. Their assertion is that a state tax on a product intended for out-of-state sale is an unconstitutional hindrance to interstate commerce, and that's the question on which the high court is being asked to rule.

But more than half of the petrochemical plants now indirectly paying that Texas state tax—at least 450 of them—are located within the Lone Star state; and Texas officials have let it be known that if the gas-gathering tax is voided, some other kind of tax will be devised. For those companies, a tax by any other name would smell as much.

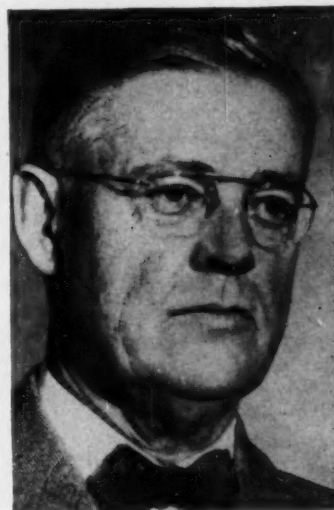
'Fair Trade' Test: Many other cases of industrial importance are ticketed for Supreme Court action before next summer's recess, some of which will affect the chemical processing industries profoundly, though not exclusively. One sure to draw attention is the "fair-trade" battle, which will pit attorneys for a New Orleans drug retailer against counsel for various big drug and pharmaceutical manufacturers. John Schwegmann, Jr., who defeated the "fair-trade" forces in a 1951 Supreme Court hearing, now is asking the high court to erase injunctions that are keeping him from cutting "fair-trade" prices in his New Orleans supermarkets.

Some 20 labor cases are already on the docket, most of which will apply to large chemical employers. Other litigation for chemical companies to watch this winter and spring bear on out-of-state "use" taxes, Walsh-Healey wage payments, truth in advertising, and regulations on food chemicals.

There's ample reason for chemical executives to take deep interest in whether the new chief justice is a "strict constructionist" or an ardent "federal supremacist." His thinking can have sharp impact on their future business.

Additive Case Exit

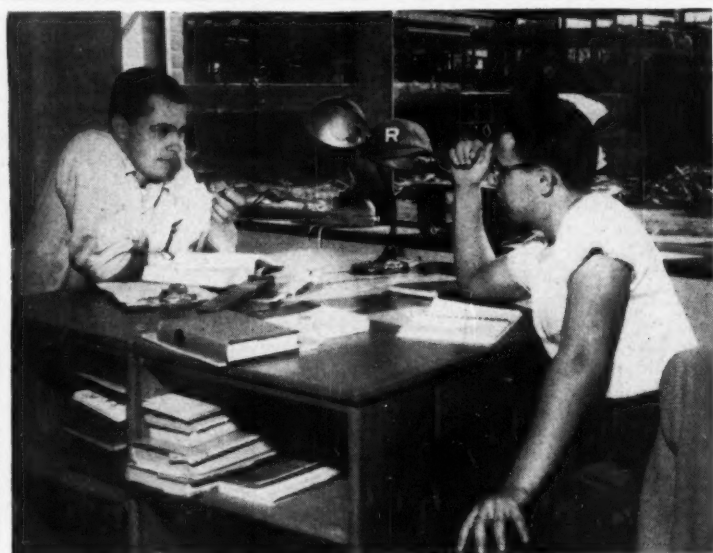
BACK TO FOUNTAIN PENS this week goes Craig Sheaffer after an eight-month tour as Assistant Secretary of Commerce in the Eisenhower administration. Sheaffer took a leading role in the ouster of Allen Astin as director of the National Bureau of Standards last spring (*CW*, Apr. 11), and many Washington observers believe Sheaffer's resignation reflects displeasure at Astin's reinstatement. Meanwhile, the battery additive AD-X2 controversy tumbles along with Pioneers, Inc., the California firm that makes the product, seeking public support for its demand that NBS reverse its unfavorable verdict on the merits of AD-X2.



Tragedy Strikes Tonawanda

TWELVE MEN were killed and dozens of others were injured in the plant explosion that rocked the northern Buffalo area last week. Owned by the Lucidol Div., Novadel-Agene Corp., the plant sustained damage estimated "in the millions." Company officials, shocked by the loss of personnel, decline even to guess any closer at a damage sum—say that investiga-

tion teams are on the spot, will sift what evidence there is to determine the cause of the explosion. Left undamaged: benzoyl and lauroyl peroxide units (necessary in flour treatment and plastics manufacture). Among those lost: units for making some 25-30 organic peroxide specialty items—most of which will be completely cut off for months to come.



Response to Industry's Dearth

TO TAKE UP some of the slack between supply and demand of young engineers and scientists, Rensselaer Polytechnic Institute, Troy, N.Y., has corralled the largest freshman class in its history, is rushing construction of a \$3-million, 648-student dormitory group of five buildings to house it. One dormitory and a dining hall are

still incomplete but classes have already started for the 860-man body—a 35% boost over last year's crop. Rensselaer's method of financing: a \$2.8-million loan from the Federal Housing & Home Finance Agency, after the college had shown that the funds were needed to further defense-related activities.

Fun and Facts

Alternately jolling and listening, 184 chemical market researchers and friends attended the second annual "resort" meeting of the Chemical Market Research Assn. amid the green-topped rolling hills of Pocono Manor.

Encouraged by the advance billing of the meeting as a combination of business and pleasure, CMRA members and their wives either arrived in or quickly shifted to sports attire. Many brought along their golf clubs.

The attendance pointed to a mounting interest in the "resort" meeting; attendance was well up from the 140-odd that made the jaunt to the first similar get-together at Mont Tremblant, Quebec, last year.

But all was not games and pastimes, certainly. The first of a series of panel discussions concerning aspects of chemical marketing costs occupied a prominent place in the program. And for the remaining formal agenda, the listeners heard a series of talks on patterns and trends of chemicals consumed and produced by the metals industries (see *Markets*).

Enthusiastic CMRA-ers, labeling the Pocono session as a business-and-pleasure success, are already looking ahead to next year's meeting, tentatively set for somewhere in the Adirondacks.

EXPANSION

Freon: Du Pont will build a \$2-million addition to its Freon refrigerant plant at its Chambers Works, Deepwater, N.J. Work will start immediately.

Dimer Acid: Emery Industries, Inc., Cincinnati, will expand its facilities for producing dimer acid. Full-scale production is anticipated for early December this year.

Coke: Uclan Products Co. has finally turned on the green light for its projected coking unit to be built at Sunday Village, Okla., in conjunction with Sunray Oil Corp.'s catalytic cracking refinery. It's scheduled for completion late in 1954. A three-way operations team will run the plant: Uclan Products will own the works; Sunray per-

sonnel will manage it; marketing will be handled through the Great Lakes Carbon Co., New York.

Titanium Dioxide: Location of American Cyanamid's proposed multi-million-dollar titanium dioxide plant, hailed as the forerunner of a \$50-million chemical industry, awaits an answer to the hot political question in Savannah, Ga., of whether the company should be permitted to drill more artesian wells. The city fears a water shortage, but since Cyanamid's wells would go far below the artesian strata used by wells throughout the county, state geologists discount the possibility.

Meanwhile, Charleston, Jacksonville, and Georgetown, S.C., are jockeying for next crack at the rich industrial prize. Leading the pack: Charleston, dangling a new water project and a 10% lower wage scale.

Paper: International Paper Co., Camden, Ark., will expand its paper production to the tune of \$2 million in new equipment. Current output capacity: 500 tons/day. The program includes construction of a cooking pot, enlargement of a finishing room, improvements on one paper machine.

Calcium Carbide: Electro Metallurgical Co., Ashtabula, O., has started up the first furnace in its \$29-million expansion program designed to produce calcium carbide and ferro-alloys. Work on six other furnaces is continuing, should swell production soon.

COMPANIES

Lyon Chemicals, Inc., St. Paul, Minn., has registered with the Wisconsin Secretary of State at Madison to do business in Wisconsin. The application lists Lyon as having an authorized capital stock of 4,000 shares of common . . . of which 3,000 have been paid in at \$75 a share.

Silica Chemicals, Inc., has been organized by the Cleveland Quarries Co. as a wholly owned subsidiary to manufacture chemicals and refractory products. Plans are now being laid to make the company's first product, buckeye silica mix—a cupola lining material.

Diamond Alkali Co. is forming two new autonomous divisions "due to the company's rapid growth in the fields": a plastics and agricultural chemical division, a chromium chemical division. Headquarters for both are in Cleveland, O.

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A phosphate*

Makes this Difference



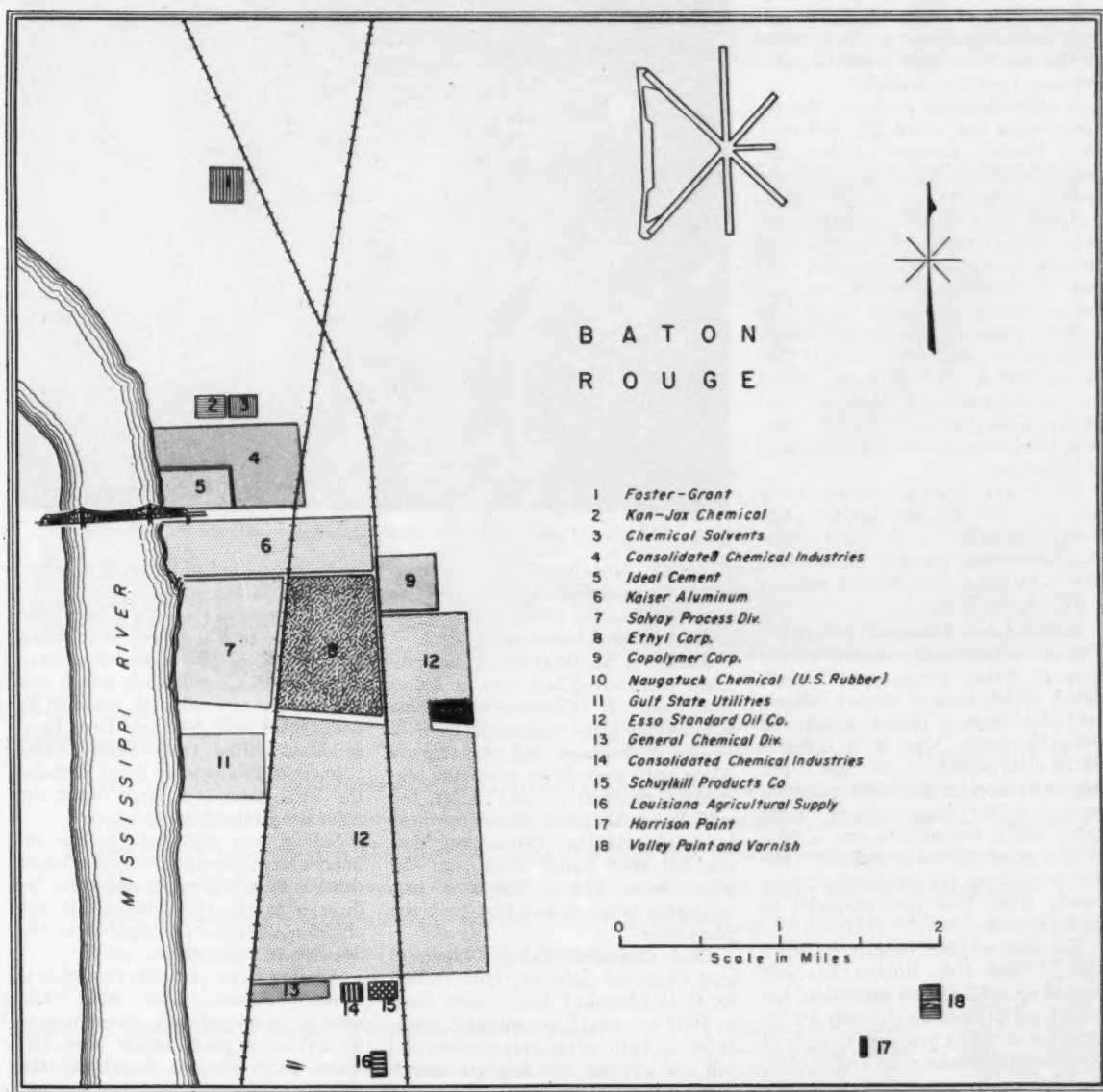
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A phosphate in your product or process might make a whale of a difference! For example . . . these bowls of cereal look alike. They taste alike. And yet, there's an important difference. One bowl contains an exciting sales feature . . . corn flakes fortified with important minerals that help build strong bones, teeth and tissue. Mothers of today look for these plus values in the foods they buy. That's why mineral enrichment with Victor calcium and iron phosphates is a powerful sales appeal that leads to brand preference.

For many years, Victor has been helping industry to new sales appeals and to lower costs through the use of Victor products. Today many industries are benefiting from Victor research and manufacturing experience. If you have a product or a process that a phosphate, formate, or oxalate might help, it will pay you to see Victor Chemical Works, 141 W. Jackson Blvd., Chicago 4, Illinois. In the West: A. R. Maas Division, South Gate, California.



Big Boom at Red Stick

Eighteen chemical process plants, all more or less interdependent, are contributing mightily to Baton Rouge's* boast that it is "The South's Fastest Growing City."

And here's the contribution of the area to plant expansion: good transportation (deep water, rail, highway, pipeline); tax exemptions, plenty of water, electric power, natural gas, petroleum, salt, sulfur and lime.

In April, 1909, a handful of men held a brief ground-breaking ceremony in a cotton patch just north of Baton Rouge, La. This was the start of the now-huge Esso Standard Oil Co. refinery.

The climate proved as suitable for industrial growth as for cotton, and

* Named for "Je baton rouge" (The Red Stick), as early French explorers called the tall bark-stripped red cypress that once stood on the present site of Louisiana's Old State Capitol. It marked the boundary between the hunting grounds of the Houma and Bayou Goula Indians.

today the refinery, repeatedly expanded, is the nucleus of a vast chemical production area on the Mississippi, 80 miles north of New Orleans. It's a closely knit group of 18 chemical plants (see map), all more or less dependent on one another for raw materials or markets for finished products.

All these plants have at least one thing more in common—they're all growing. Here's a rundown of expansion recently completed, in progress or in prospect:

Esso: Since the end of World War II, two major expansions have been undertaken at the Esso refinery, one for \$35 million, the other for \$50 million. It's now one of the largest and most complete refineries in the world,

with a daily capacity approaching 300,000 bbls. of crude oil. Some 700 products and grades of products range all the way from light liquefied gases to heavy fuels and asphalts.

A hefty chemical producer, the refinery turns out about 25, including ethyl alcohol, iso-octyl alcohol, isopropyl alcohol, butadiene, benzene and ethyl ether.

Ethyl: Ethyl Corp.'s tetraethyl lead plant (the largest in the world) is a completely integrated operation. Expansion expenditures have run like this: 1939, \$7.5 million; 1948, \$34 million program completed; 1950, \$7.3 million; 1951, \$4.7 million; 1952, \$7 million. A few years ago, Ethyl went into agricultural chemicals, now produces the herbicide 2,4,5-T, benzene hexachloride and lindane as well as TEL there.

Ethyl was granted a certificate of necessity last year for lindane (\$2,-815,000 at 45%), and the latest expansion under way is a \$2.7 million herbicide project, also favored with a certificate (at 35%).

Consolidated Chemical Industries: The second chemical company to join Esso at Baton Rouge was Consolidated, which built a contact sulfuric acid plant there in 1926 to supply the refinery's needs. Now it is doing a bit of a turnabout: a year ago it put into operation a \$500,000 plant to recover sulfur from refinery waste gases, and a few months ago, a \$3.5 million plant to make sulfuric (400 tons/day) from sludge obtained principally from Esso and refineries in New Orleans.

U.S. Rubber Co.: Naugatuck Chemical Div. of U.S. Rubber has just wound up a \$2-million expansion, has a \$1.4-million one on the way for its Kralastic molding powders (blends of styrene-acrylonitrile resin and rubber) scheduled for completion next January. That will boost the output of the plant (the former nitrile rubber plant of Esso, which it bought in 1950) to a total of about 40 million lbs. of synthetic rubber, latices and resins.

Allied: Two divisions, Solvay Process and General Chemical, represent Allied Chemical & Dye in Baton Rouge. Solvay was first to locate there (in 1935 when it put in soda ash facilities; chlorine and caustic were added in 1937), has just completed a \$13-million expansion to boost production of soda ash one-third. This was on top of a \$9,350,000 program begun in 1946, which in turn followed a wartime boost in alkali capacity.

General, following in 1945 with a hydrofluoric acid plant, later added fluorine compounds (including its



BATON ROUGE: Along the Mississippi, a good climate for chemicals.

Genetron propellents and refrigerants). Currently it is building two plants (*CW, May 16*): a sulfuric unit and a trifluorochloroethylene plant.

Kaiser: A \$2,056,000 building program was started last year at Kaiser Aluminum & Chemical's alumina plant. (This plant was originally built by the government and operated by Alcoa until shut down when the aluminum situation eased.) After the war, Kaiser bought it; it was operated by Kaiser-subsidary Permanente Metals, but now Kaiser itself runs the plant. Some \$22 million went into expansion when Kaiser first took the plant over.

Cook Chemical: Kan-Jax Chemical and Chemical Solvents, both owned by Cook Chemical, built a new plant in 1952 to serve the combined operations of both companies—insecticidal oils and solvents, and finished insecticides.

Foster-Grant: Latest newcomer to the Baton Rouge scene is Foster-Grant, which chose a 100-acre site there for its \$4-million styrene monomer plant. Although originally scheduled for completion by mid-1954, construction is going so smoothly that the plant may come in before the end of the year. The company's Leominster, Mass., polymerization plant is being doubled in size and will be able to take all the Baton Rouge output.

Follow the Leader: Foster-Grant is but the latest firm to choose Baton Rouge either because it could buy necessary raw materials from another plant there, or could sell its output to one in the area. In this case, F-G switched from a Texas location be-

cause it was assured a supply of ethylene from the refinery.

Ethyl, too, set up shop alongside Esso to be near a source of ethylene and hydrogen. It was the other way around with Consolidated, which saw the refinery as a taker of much of its acid. Ethyl now gets acid from Consolidated, brine from Solvay. And Schuylkill Products is there because the TEL plant is a large outlet for its main product, lead.

Solvay was attracted by the refinery's large demand for soda ash and caustic. Pulp and paper and other industries in the state, big alkali and chlorine markets, also figured in the decision to locate there.

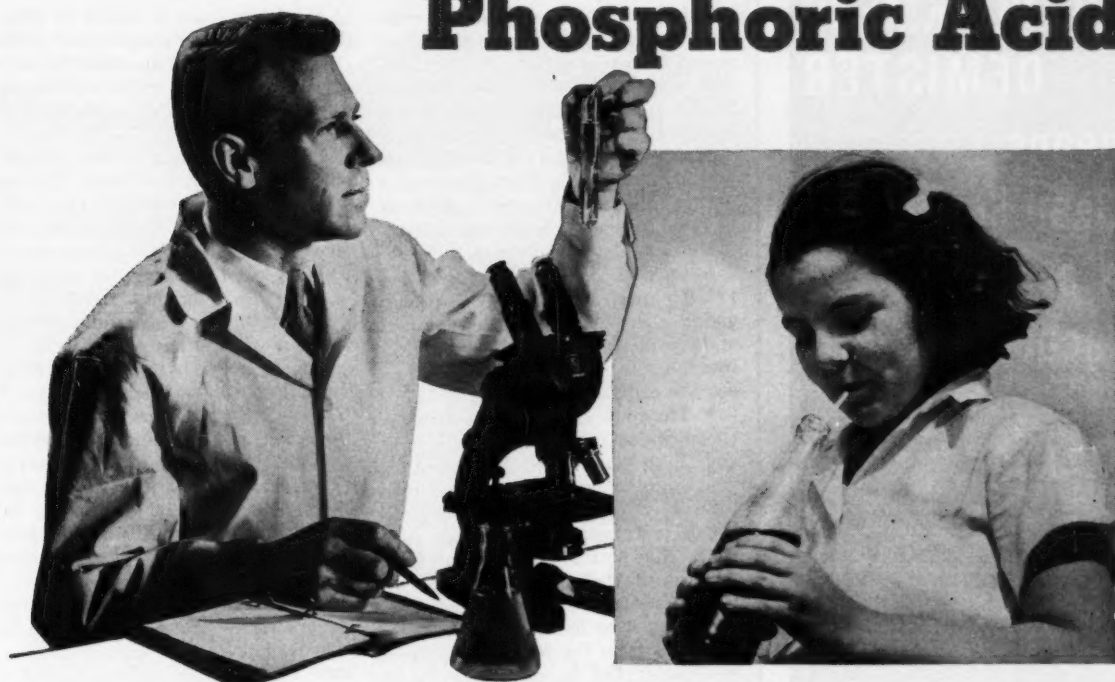
Another large soda ash consumer is Kaiser's alumina plant. And while most of its output goes down river to its reduction plant below New Orleans, some alumina is sold to the refinery.

In 1943, the U.S. government built the first of its butadiene plants, which Esso operated to make feed stock for another government-owned synthetic rubber plant next door, run by Copolymer Corp. Also in 1943, the first government butyl rubber plant was completed and operated by Esso using feed stock from the refinery.

In addition to the plants detailed above, the Baton Rouge chemical community includes: Old Lou Chemical Products (cleaning compounds and disinfectants); American Bitumuls (emulsified asphalts); Louisiana Agricultural Supply (fertilizers); Valley Paint and Varnish and Harrison Paint (both paints and varnish); and Ideal Cement, which built its plant there in 1951.

AA QUALITY

Phosphoric Acid



From MIRACLE DRUGS to SOFT DRINKS ... Chemical of a thousand uses, AA QUALITY Phosphoric Acid, in its various grades, amply and consistently meets national formulary and pure food specifications. Made from 99.9% pure Elemental Phosphorus, produced by electro-thermal process in two modern A.A.C. Co. plants, using phosphate rock from our own mines. Utmost purity assured by rigid control from mines to finished product . . . dependable service assured by large-scale production and ample phosphate rock reserves. Good reasons for using AA QUALITY Chemicals. Note product list below—mail coupon for full information.

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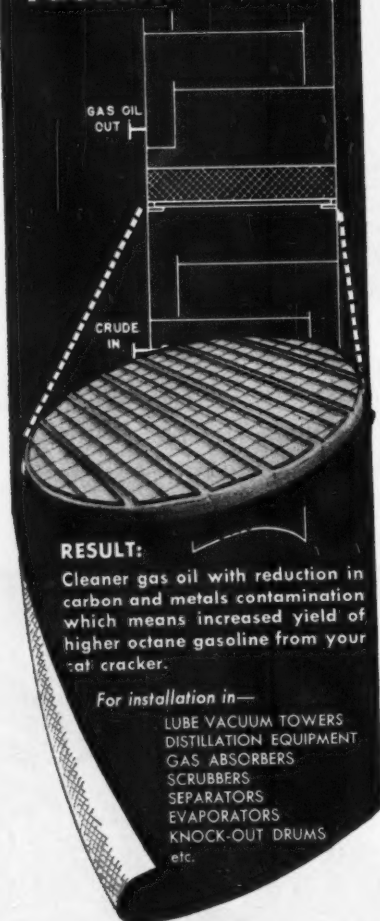
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2074



BUSINESS & INDUSTRY

This year, chemical firms are contributing substantially to the city's record industrial growth, with plants and scheduled expansions totaling \$127.5 million. Additional activity can be expected as plans for further large-scale developments of the Baton Rouge port are acted upon. New deep-water port facilities are planned for the west bank of the river, should mean opening of new industrial areas.

More than Neighbors: In addition to this process of industrial self-propagation, the section has grown because of its many other advantages. These continue to encourage established firms to expand, new ones to build.

- **Transportation.** A major factor is cheap water transportation to North and East, South and Southwest as well as to foreign markets. Lying on the first high ground on the Mississippi's east bank, Baton Rouge is a deep-water port 240 miles inland from the Gulf of Mexico. Connections with the Intracoastal Canal are invaluable in linking it to industrial cities along the coast from the Rio Grande River to Florida. And barge delivery is afforded to points on the Mississippi, Ohio, Missouri, Red Rivers and tributaries.

Four national highways run through Baton Rouge, and three railroad trunklines (Illinois Central, Louisiana & Arkansas-Kansas City Southern Lines, Missouri Pacific) serve it. Another trunkline, Texas & Pacific, along the river's west side, gives the city an additional rail outlet.

A network of pipelines brings crude oil to Baton Rouge from Louisiana, Mississippi, Arkansas and Texas. The products pipeline of Plantation Pipe Line Co., originating in Baton Rouge, transports gasoline, kerosene, etc., as far as Greensboro, N.C. This carries not only Esso products, but also those of Humble, Shell, etc., brought to the city by pipeline from Texas and by tankers.

- **Taxes.** A keystone in the state's efforts to attract industry is its tax incentive plan, a 10-year tax exemption. This makes possible exemptions for new plants or additions to existing ones from both state and local ad valorem taxation, including buildings and equipment. In addition to state encouragement of this nature, the City of Baton Rouge has set up an industrial area free from all city taxes—via special charter provision establishing an industrial area separate from the urban area. Business and industry in this designated area pay only state and parish taxes.

- **Labor.** Baton Rouge workers are largely Louisiana natives. Over 30%

of the labor force is skilled or semi-skilled. Although unemployment in the city is low, there is an unlimited supply of labor—many with wartime industrial training and experience—in outlying areas.

- **Adequate electric power** is available for industry. Gulf State Utilities serving the area has added to its facilities—its station in the heart of the city's plants alone has a capacity of 210,000 kw. Rates compare favorably with those in other industrial areas.

- **Water.** Industries requiring large volumes of water have customarily developed their own supplies, although there is a good municipal system. A considerable quantity may be obtained from wells drilled to a 400-ft. stratum and to a 700-ft. stratum. Mississippi water, however, is used for cooling and other purposes. For example, the refinery alone uses 230 million gal./day, 200 million of which the river supplies, the remainder wells.

- **Fuel.** Industry, which uses natural gas almost exclusively, is served by two pipeline systems owned and operated by Interstate Natural Gas Co. These lines connect to numerous gas fields in the state, assure a dependable supply.

- **Petroleum.** Baton Rouge is the center of a vast oil producing area still not fully developed. Now third state in oil output, Louisiana currently produces 700,000 bbls./day. The Esso refinery gets its supply from 150 different fields in Louisiana, Texas, Arkansas and Mississippi, 60% coming from the former. Some 90% of supply is brought in by pipeline.

- **Minerals.** Salt, either mined or in brine form, can be obtained from large salt domes scattered through the state. That used at Baton Rouge is piped from fields at Plaquemine and nearby locations.

As for sulfur, Louisiana trails only Texas in production, large deposits being worked or under development at five areas in the state. And lime is available in virtually inexhaustible supply from oyster and clam shells along the Gulf and in brackish water in the southern part of the state.

To substantiate its claim—"The South's Fastest Growing City"—Baton Rouge cites its census: 1940, 34,719; 1950, 125,629. And to point up its lure as a chemical area, it can show the 18 chemical process plants that are among the largest of its 215 industries of all kinds.

Climate for Growth: With these natural and man-made advantages to offer, it is no surprise that Baton Rouge is growing—and growing chemically.



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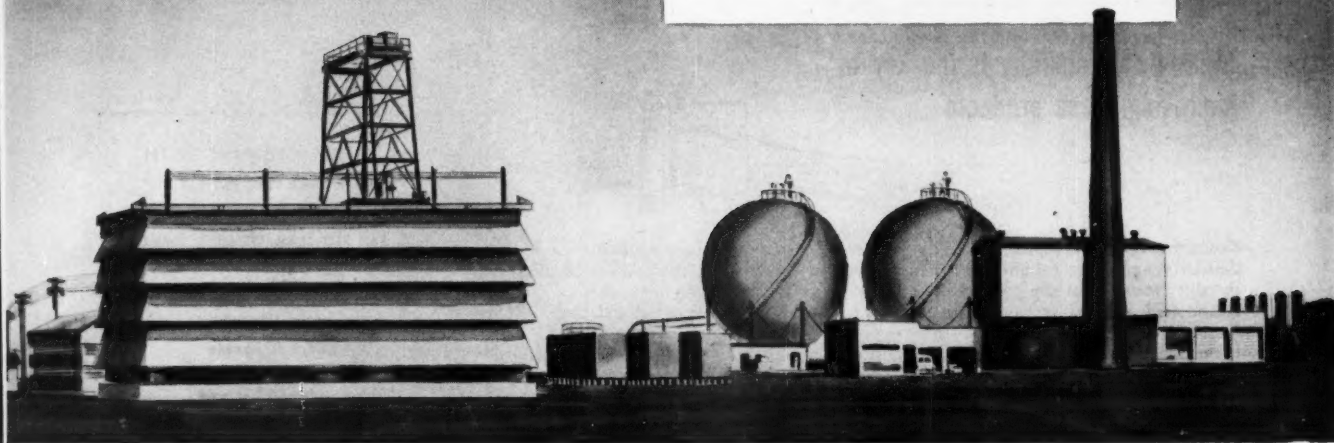
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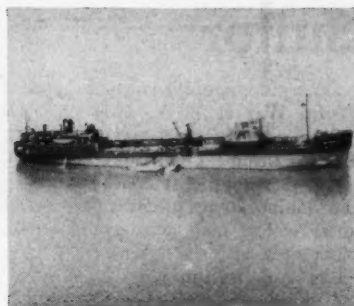
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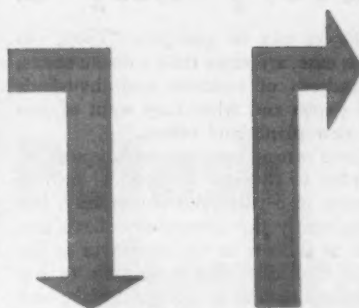
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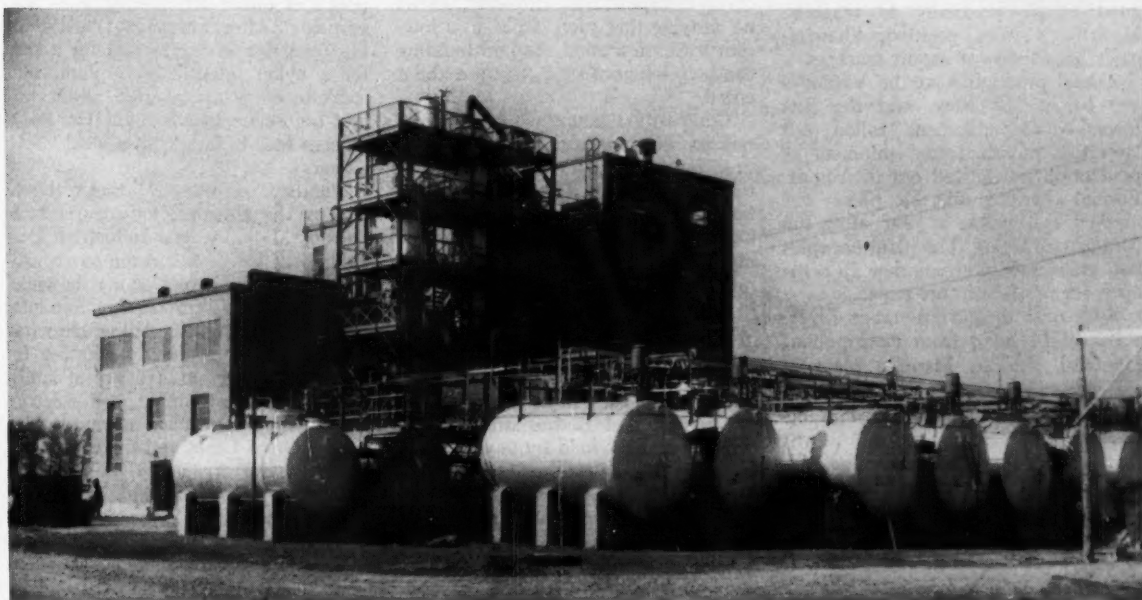
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Optimistic Over Plastics

Deep in the heart of Montreal's rich agricultural belt, St. Maurice Chemicals, Ltd. formally cut the tape on its formaldehyde-pentaerythritol plant at Varennes, Que., last week. The dream-child of Shawinigan Chemicals Ltd. (Montreal) and Heyden Chemical Corp., (New York) St. Maurice may be the forerunner of a brand-new industrial center in the area.

Certainly, its location close to the paint and resin plants concentrated in southeast Canada would appear to give St. Maurice an economic advantage over the big newcomer in the Dominion's formaldehyde-PE field. Canadian Chemical Co., whose imposing plant at Edmonton, Alberta, is about 2,000 miles distant, has installed PE-producing capacity of re-

portedly 15 million lbs./year (CW, Aug. 1), but hasn't made any yet.

Bells and whistles voiced the townspeople's fiesta feelings about the dedication that brought a new era to 280-year-old Varennes, where 17th-century white settlers had fought numerous battles with Iroquois tribes. When Quebec Premier Maurice Duplessis pressed the ceremonial button that caused the plant whistle to emit its inaugural blast, bells in the steeples of the town's church pealed a salute, and school bells throughout the community quickly joined in.

Vital Statistics: The \$3-million plant, which is all set to come into full production, is designed to manufacture 30 million lbs. of formaldehyde and 3 million lbs. pentaerythritol annually—slated largely for

Canada's plastics and paint industries. Stacked up against an estimated consumption of 20 million lbs. of formaldehyde, 2 million lbs. of PE in Canada last year, it rates as hearty confidence in the growth of industry within the near future.

Joint partners (50-50) in the venture, Heyden and Shawinigan began survey work at the Varennes site in Dec. 1951, laid the cornerstone "with ceremonies" last September. Heyden took complete charge of the engineering work; Heyden "know-how" was utilized for processes involved. Once running, however, a complete Canadian staff will take hold in close liaison with both parent companies.

To smooth distribution, St. Maurice has acquired the majority of the common stock of the 111-year-old McArthur Chemical Co., Ltd. of Montreal and Toronto, one of the oldest chemical sellers in Canada. Not a new friendship, Heyden previously

had used McArthur as its Canadian sales agent.

Exporting Expected: Figuring that up to 15 million lbs. of formaldehyde will go into annual pentaerythritol output, this would leave another 15 million lbs. of formaldehyde available for sale.

The immediate outlook savors of sharp competition. With Canadian Chemical's installed PE facilities, plus Bakelite's recently completed formaldehyde plant (at Belleville, Ont.), output of both products is substantially above present Canadian demand. St. Maurice, however, holds some good cards: proximity to markets, McArthur's sales position, Shawinigan's knowledge of export markets.

Actual production at the Varennes site began last May, and the first formaldehyde shipment rolled out later that month. Initial shipment of pentaerythritol moved out in August. Formal opening of the plant was marked last week, a year after the cornerstone laying. The plant occupies two acres now, with another 25 acres open for possible future expansion.

Built near the St. Lawrence River, a handy 14 miles from metropolitan Montreal, the St. Maurice plant is well located, railwise. The plant can also take advantage of water shipping—seven months of the year. Just recently it took in 1.2 million gal. of methanol in a direct-from-the-Gulf of Mexico shipment via the Commercial Solvents tanker *Otco*. On-site storage capacity: 1.5 million gal.

Every City a Suitor

They're out to get you. "They," in this case, are more than a dozen states, hundreds of counties and thousands of cities; and what they want of you is new plants and offices.

There are numerous techniques for trying to inveigle a chemical firm to locate in a particular community, but apparently the community that's surer of success in this endeavor is the one that can offer proximity to big markets, access to raw materials, and cheap transportation. However, there's no denying that such "frills" as a low-rent lease on a good site and building can help when other factors are about equal.

Competition among cities and counties for new industrial plants is getting keener by the minute. Every time a town council finds its expenses floating above the income level, one alderman is sure to declare: "Gentlemen, we'll either have to raise tax rates, or else bring in new industry to broaden our tax base." Since the councilmen usually are taxpayers themselves, the latter course sounds much cheerier; and another "industrial development committee" is born.

Ethylene and Enthusiasm: One of the best records held by any of those committees is that of the Orange (Tex.) Industrial Development Committee, which is credited with helping to bring Du Pont, Allied, Goodrich-Gulf and Spencer chemical plants into that

booming community since the end of World War II (CW, May 30). Of course, other factors were favorable and important: Gulf Oil was getting ready to supply ethylene by pipeline, the Sabine River provided plenty of good water, land was available for plant sites, and the Sabine Lake served as an outlet for ships and barges.

But the committee and its director John Simmons (formerly a chemical engineer for Texaco) have followed a policy of direct action as well as advertising. After Simmons heard that Du Pont was in the market for a site for a nylon intermediates plant, not a blade of grass sprouted under his feet before he had brought Du Pont officials face to face with a local landowner.

Another community that's been wooing the chemical industry is Port Huron, Mich., whose Industrial Development Corp. has come to regard chemicals as an ideal counterbalance for the state's chronic monomania for auto building. Managing Director Rolle R. Rand, proudly pointing to his town's attractions (plenty of land, unlimited water supply, good electric power supply, water transportation via the Great Lakes and the future St. Lawrence seaway, and a railroad location that's closer to either New York or Chicago than is Detroit), is using personal calls and direct mail to lure chemical firms.



Some Do It Themselves

FROM AN economy angle, C. A. Benoit, Jr., president of Permatex Co., Inc., finds air travel almost as inexpensive as driving an automobile. Spending some 500 hours/

year in the air, he figures the operating cost of his company's Beechcraft Bonanza at about 10¢/mile—including depreciation and full insurance coverage for four

persons. (American Automobile Assn. says it costs 9.16¢/mile to drive a \$2,000 car 10,000 miles/year.) Added incentive: it's fun too.

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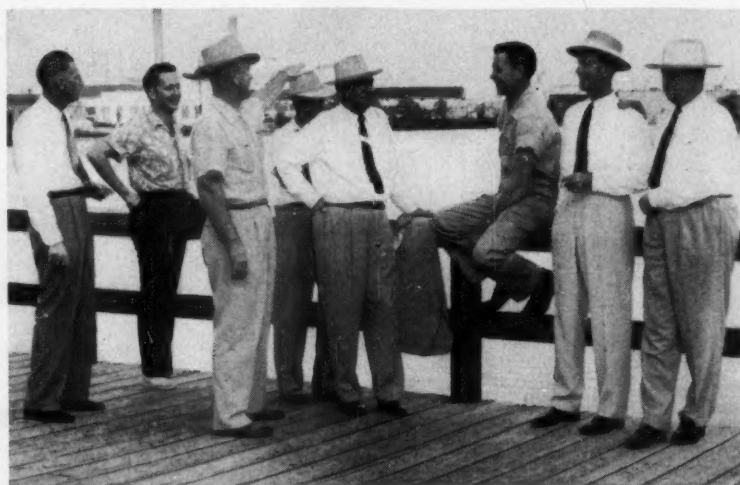
Token-Priced Sites: Rand, who previously served as executive director of the Colorado Development Council, heads a four-person staff and has a \$50,000/year budget, which has been oversubscribed by 84 member companies. Title to some 350 acres of land has been vested in the city, and the various-sized parcels are being offered to new industry for "token payment." Rand says that through efficiently organized local construction teamwork, plant construction costs can be kept within \$4.50-\$6.00 per square foot, with completion assured within ten weeks from date of approval of plans.

Another city making a particular pitch to chemical concerns is Tampa, Fla., whose Chamber of Commerce beckons with winsome words about all

the phosphate (containing alumina and uranium) that's mined in Tampa's back yard.

There's also a chemical tune to the siren song being sung by the Chamber of Commerce Industrial Division at Tacoma, Wash. Manager Marshall T. Ramstad has a chemical engineering background, has organized a group of junior executives largely drawn from chemical companies there. One of their prime tactics is to help bring to their city conventions of national professional societies, whose members thenceforth—according to Ramstad strategy—will speak favorably about Tacoma when they return to their home offices.

One 'Keep Out' Sign: San Diego, Calif., seems to be the only large American city that isn't eager to get



ORANGE'S SIMMONS: To his group's credit, another plant on Orange County map.



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new chemical plants. Officials say their city simply doesn't have what chemical firms need; and also, the San Diego populace is said to be supersensitive about air pollution.

Last spring, Nebraska joined the eight states that already had laws permitting cities to sell bonds to finance construction or purchase of buildings and grounds for new industries, and Tennessee broadened a similar law to include counties as well as municipalities.

All New England states now have laws authorizing the establishment of state-wide private credit corporations to provide industrial expansion credit when loans aren't forthcoming via normal banking channels.

Thus it appears that there's a nationwide "buyers' market" for companies wanting to acquire new plant sites. A chemical firm that speaks too loudly about expansion plans is likely to be besieged by "community boosters" waging the most competitive courtship since armies battled over Helen of Troy.

LEGAL

Persistent Board: National Carbide appears to be facing still more action in the air pollution campaign at Louisville, Ky. Although the company was found "not guilty" in a recent criminal court hearing (CW, Sept. 26), the City-County Air Pollution Control Board is now planning still another legal step. It will ask the circuit court

to issue an injunction ordering National Carbide to reduce the density of the dust-and-vapor cloud emitted from the main stack of its plant there. When one board member expressed reluctance to "harass National Carbide every month," Vice-chairman Henry Fox declared: "We're here to protect the people. If this be harassment, let it be called that."

Vesting Test: Attorneys for the new owners of the formerly government-held Schering Corp have taken the initiative in the Justice Dept.'s lawsuit against the one-time German controlled pharmaceutical firm (CW, Dec. 13, '52). In reply to the government's contention that the new Schering management should have lived up to a patent licensing agreement, company attorneys are arguing for dismissal of the complaint and invalidation of the agreement on grounds that the pact was:

- Invalid because Schering officers were "coerced" into signing it.
- Illegal because the government had vested itself only with Schering's stock, not with its patents and other assets.
- Not binding because it was entered into after the sale of Schering stock to the new owners last year.

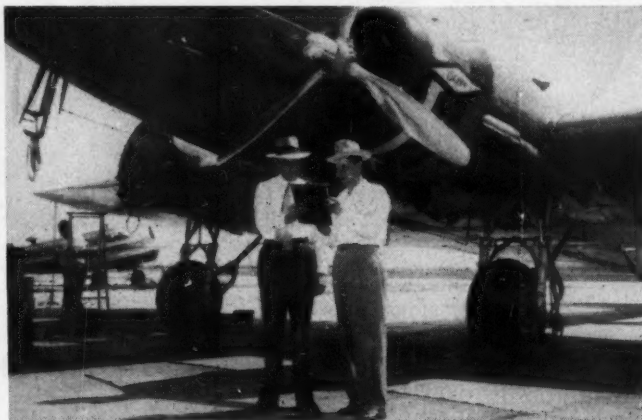
Judge Hartshorne has postponed decision until after further argument.

Soft Water Suit: Contending that the invention described in a patent held

by National Aluminate Corp. was anticipated by the teachings of the nineteenth century German chemist Friesenius, Hall Laboratories is asking U.S. District Court in Wilmington, Del., for a declaratory judgment relieving Hall of its obligation to pay royalties under that patent. Known as the Fink-Richardson patent, it covers a chemical process for softening water for industrial use.

Drive on Boric: Opposition to sale of baby powders containing boric acid seems to be building up across the nation. Latest salvo fired by the anti-boric forces: Dr. Donaldson Rawlings of the Illinois Dept. of Public Health is urging municipal and state health authorities to advise dealers to stop selling borated powders unless they're labeled "poison."

New Oil Spex: Between now and Jan. 1, lawyers for hundreds of industrial companies across the nation will be revising their contracts for purchase of petroleum products. Cause for revision: approval by the American Petroleum Institute of a volume of recalculated and extended Petroleum Measurement Tables, published by the American Society for Testing Materials. API recommends that the new tables be used for specifications in place of those listed in the National Standard Petroleum Oil Tables, published by the National Bureau of Standards 17 years ago.



Some Have a Full-Time Staff

RUNNING a main-line hop from Houston, Tex., to off-the-main-line Midland, Mich., Dow's twin-engine DC3 saves strain on harried executives, expedites travel. Chief pilot H. E. "Ted" Merchant estimates he averages some 75-80 trips/year over the 1,134-mile route. Reclining chairs, conference tables provide all the comforts of home offices; latest navigational equipment and an automatic pilot supply safety.



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District Sales Offices:
Atlanta, Chicago, Dallas, Kansas City,
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On Our 155th Anniversary

we express to our friends and associates throughout the industry

- .. our sincere gratitude to the past
- .. our positive hope for the future
- .. and our deep and abiding faith in the final ability of mankind to meet with courage, understanding and realism the one immortal certainty of life ... change.



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BUSINESS & INDUSTRY.

THIS MONTH							NEXT MONTH						
SEPTEMBER							OCTOBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
6	7	8	9	10	11	12	4	5	6	7	8	9	10
13	14	15	16	17	18	19	11	12	13	14	15	16	17
20	21	22	23	24	25	26	18	19	20	21	22	23	24
27	28	29	30				25	26	27	28	29	30	31

WEDNESDAY
30
SEPTEMBER

9 a.m. Defense check on packaging
wax specs
check FDA-additive OK
12¹⁵ MCA committee mtg. lunch
Occidental ?
2³⁰ Beltville
herbicide 769
new Commerce chemical figures
WGM from NY arrive Statler 7³⁰

273

Wednesday, September 30, 1953

92

WASHINGTON SCHEDULE: What price representation?

Ambassadors' Future

With business looking ahead to a year of increasingly competitive selling, there's been a close look for corporate compulgence that could be trimmed away.

Prime targets for comptrollers are company Washington offices. Value of such offices, they say, in comparison with other regional offices that handle sales, is questionable. And while top management has not questioned the national-emergency worth of a Washington office, peacetime has now changed the balance. Too, costs are becoming a greater factor. Hence they ask, "Do we need to have—and can we afford—a man in Washington?"

Any story of companies and their representation in Washington suffers, first of all, from an inadequacy of definition. People in Washington who represent companies include those called lobbyists, lawyers, expeditors, Washington relations specialists, manufacturers' representatives, five (or four) percenters, fixers, public relations men.

It would banish confusion if one could give lucid and mutually exclusive definitions of these classes. Such definitions are virtually impossible to frame.

Chemical firms are primarily represented by none of these. Their workers are salaried employees whose primary function is not specifically patents, procuring government contracts, supplying government information, influencing legislation, or any other single purpose, but rather who continually and generally represent the company before a broad spectrum of government agencies.

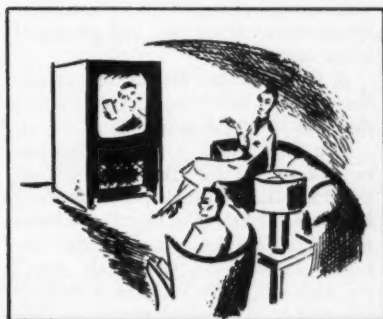
Much of this representation takes the form, too, of chemical public relations—explaining the specific problems of the industry. Often, a regulation that seems completely workable to the agency issuing it will be impractical to a company, from a record-keeping standpoint. For example, a ruling on stock items that was put out by the Renegotiation Board, but later withdrawn (CW, Aug. 29), would



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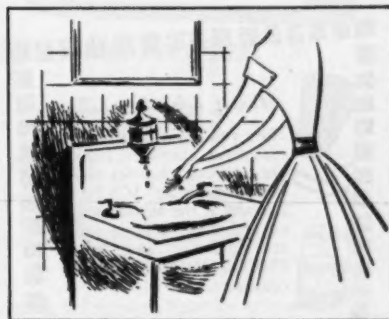
Where Innis, Speiden Service Helps You!



Carbonate of Potash—for the glass in TV tubes or for drugs, soaps, textiles, chemicals, etc. Liquid 47-48%. Hydrated 83-85%. Calcined 99-100%.



Talc—for face powder or for paints, paper, plastics, pharmaceuticals, etc. A range of grades for varying applications.



Caustic Potash—for soap making, special iron-free grade 45-50%. Other solid and liquid grades for all purposes.

There is no better source for heavy chemicals and white goods than Innis Speiden! For 137 years this name has been a chemical industry by-word. From ISCO sales offices and stock points throughout the United States you can depend upon prompt shipment and service that follows through. ISCO products are high in quality and backed by expert assistance on application problems. Your inquiry for full information on ISCO products will receive immediate attention. INNIS, SPEIDEN & CO., INC., 420 LEXINGTON AVE., NEW YORK 17, N. Y. SALES OFFICES IN BOSTON, CHICAGO, CLEVELAND, AND PHILADELPHIA.

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— Caustic Potash — Chalk — Clays —
Glauber's Salt — Magnesite — Magnesium
Carbonate — Magnesium Chloride — Muri-
ate of Potash — Silicas — Talcs

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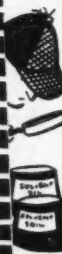
from the EMULSOL lab

A thought or two about things new
and interesting in the field of
surface-active chemistry . . .



for "tenderized" cloth

Harsh fabrics that need a soft finish, whether they're to become luxurious ladies' gowns or just quick changes for Junior, get that way easily with Emulsol's new cationic softener, EMCOL T2 Base or EMCOL T23 paste.



solving solvent safety

Have you any old diesel locomotives, ship's oil bunkers or auto engines that need degreasing? It'll be a lot safer if the solvent with oil and water soluble soils are emulsified away with EMCOL H50A or any of its cousins.



"whipping cream" pretender

... just as tasty, but cheaper than the cow kind . . . is now being formulated for bakery and home use with edible vegetable mono-glyceride EMCOL RGV. Now, if you'll just pass the strawberries . . .

YOUR PROBLEM IS NEXT . . .

If you've a production headache that might respond to the proper surfactant, sit down and give us the details on your letterhead. We may have the answer sitting "in stock" . . . or perhaps we'll be able to invent it for you. Write Department CW.

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BUSINESS & INDUSTRY

have made a basic chemical producer liable to renegotiation if a product six or seven manufacturing steps away were sold under defense contract.

Prevention, not Cure: A corporation president once characterized his company's Washington representatives as a fire department. As such, he was perhaps thinking primarily of them as ready to put out a fire—to help out if some government-evoked emergency should arise. Perhaps, though, the most important part of the fireman's job is his work of fire prevention—maintaining close enough liaison to prevent the need for emergency action.

That such firemen are deemed necessary by American industry may be seen from the fact that—even in these post-Korea-mobilization days—over 300 corporations maintain offices in Washington. In addition, thousands of other companies have part-time representation of one sort or another.

The number of nonclerical employees in companies that have their own offices range from one up to 30 or more, though the median is probably not above three.

Too, expenses are not inconsiderable. Perhaps a working minimum for one man (plus secretarial help) is \$35,000/year. A four-man office would probably run at a minimum of \$100,000.

The personnel for such office would naturally be more on the line of "ambassadors at large" rather than messenger boys. ("If a company uses its Washington man as a messenger," comments one Washingtonian, "it's wasting money. It would be cheaper to get a five-percenter.")

What should a corporation get for its money? One representative outlined this job description:

- A Washington man should maintain headquarters in Washington, rather than commute for a few days each week. He should represent his company on research and development matters sponsored by the Dept. of Defense and other agencies, discussing problems involved, negotiating contracts and maintaining liaison during the progress of the project.

- He should maintain continuous contact with the personnel in agencies responsible for drawing up purchase specifications for products made by the company.

- He should provide his company with information on government buying.

- He should act as corporation (and chemical industry) representative on various government committees, and to the various societies and

associations with Washington headquarters.

- He should supply all technical, statistical and other information required by various government agencies and collect information available from government sources for company use.

- He should maintain files of government reports, regulations, pending legislation and other matters that relate to the chemical fields. When required, he should be able to interpret these for his management.

- He should prepare an analysis of broad-interest Washington activities that would affect the corporation, and advise the company on chemical industry trends as seen from Washington.

- He should administer the office and handle requests for passports, etc., requiring government action.

- In addition, during times of national emergency, he should maintain continual contact with mobilization and defense agencies on such matters as priorities, allocations, and price and wage controls.

If the office has several operatives, there is the additional administrative duty for the head man.

You Help Me . . . : The extensiveness of such a list ignores, of course, the fact that mutual problems may be solved cooperatively. The Manufacturing Chemists' Assn., or the National Agricultural Chemicals Assn., for example, may provide a nucleus for action by several company reps and association men. At other times, the common denominator for cooperative effort may be a mutual product—the recent ammonia squabble (CW, Aug. 1) is a good case in point.

Too, many Washington men also serve as their company representatives on committees set up by such groups as MCA.

There are other mutual organizations—the National Security Industrial Assn., for one. NSIA was set up to help the Defense Dept. on technical matters. It has 13 standing advisory committees to which Defense may send problems. Washington representatives—or persons from their companies—may serve on committees, though committee membership is not limited to representatives from the 600 NSIA companies.

Good, Better, Best . . . : In general, fellow representatives characterize as the most successful those men who, in addition to having a knowledge of what is going on in Washington, have a broad understanding of the plans and thinking in various departments of their own company.

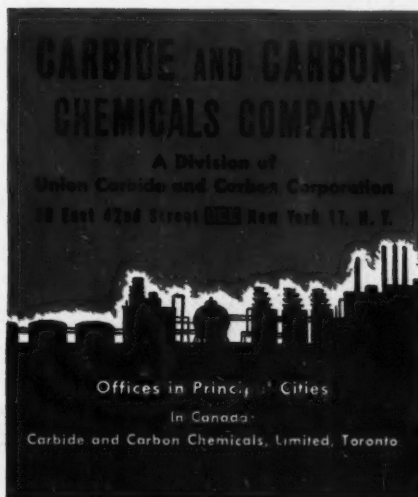
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As a hygroscopic agent, diethylene glycol is equivalent to glycerol—and because of its ether linkage, it is generally a better solvent for resins, dyestuffs, and proteins. This solvent power coupled with a low freezing point ($-8.0^{\circ}\text{C}.$) and low viscosity (35.7 cps. at $20^{\circ}\text{C}.$) gives diethylene glycol a range of usefulness that cannot be equalled by other commonly-used humectants. And diethylene glycol gives more humectancy and solvent power for your dollar than any other humectant.



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Resin solvent and softener in composition cork



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Humectant for tobacco



Conditioner for textile fibers and yarns



Dyestuff solvent and humectant for printing pastes that will not dry out on storage



Gas reaction inhibitor in casting magnesium and aluminum

You can also use diethylene glycol as a mutual solvent in cutting oils, as an intermediate in the preparation of alkyd resins and fatty acid esters, and as a solvent in the processing of intermediates for cortisone.

Availability: Diethylene Glycol is available in commercial quantities. For technical help, samples, or prices, call the Carbide office nearest you.

Aromatics...

7 in a row

In various stages of engineering and construction are the following:

- 1—Naphthalene Purification—a continuous distillation unit to make high quality Naphthalene. In successful operation.
- 2—Tar Distillation—a continuous tar distillation unit making special coal tar pitch. Ready for operation.
- 3—Aromatic Recovery—a unit to recover aromatics from petroleum stocks. Now under construction.
- 4—Naphthalene Purification—a combination crystallization and distillation unit to make high purity Naphthalene. Now under construction.
- 5—Tar Acid Recovery—a special stripping unit to recover tar acids from plant wastes. Under construction.
- 6—Para Xylene Recovery—a low temperature crystallization unit to make high purity Para Xylene. Under construction.
- 7—Para Xylene Recovery—a low temperature crystallization unit to make high purity Para Xylene. Completing engineering.

Aromatics is but one of the many divisions of processing in which our engineers are experienced. The country is dotted with successfully operating plants with which they have been associated in a design capacity. Particularly numerous are plants involving high or low pressure distillation, azeotropic and extractive distillation, extraction, absorption, and crystallization.

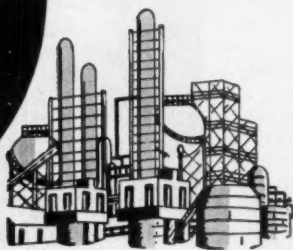
Engineering

Design and Construction
of Process Plants

Design and Construction
of Process Units

Process Evaluations

Economic Studies



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representative may regularly spend one day a week at his company's home office, if not too distant from Washington.

The most successful Washington offices are those set up as staff functions, reporting to either the company president or executive vice-president. Too, since Washington is protocol-conscious, most representatives have a "big" title—assistant to the president, vice-president, or assistant vice-president.

Who and How: Naturally, there is a wide variance in company office policy. Probably better than three-quarters of the large, active chemical concerns have full-time representatives stationed in Washington. Some companies with home offices within a hundred miles of the capital can and do maintain good liaison without offices. Some have offices but use them primarily for patent work, leaving the rest to commuters.

Not all of the companies that had full-time men in Washington are keeping them there now. A few have transferred them back to home offices with the idea that they can maintain their contacts with periodic visits to the capital. Another approach: companies in related—but essentially non-competitive—fields have jointly engaged a representative. Because of the continuity it gives, this would seem the preferable alternative.

Despite these economies, corporations agree that Washington can't be ignored. The increasingly extensive part that government is playing in development of new products and new uses for old products, as well as the constantly widening acceptance of government specifications as industrial purchase standards, are enough in themselves to warrant Washington representation.

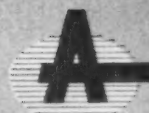
And having a Washington contact in a position to give early information on new developments, and to foster specifications that would not arbitrarily exclude a company's products, could well make a significant difference in a company's future operations.

FOREIGN

Melamine/Italy: The Montecatini Co., Italy, started production of melamine recently. Company spokesmen say negotiations are under way with foreign patent holders for rights to manufacture polyesters soon.

Polyethylene/Italy: Montecatini has also commenced production of polyethylene at Ferrara. Initial goal: 2,500 tons/year—to be increased to 4,000

Advance Info



Published by **ADVANCE SOLVENTS & CHEMICAL CORP.**

NEW ZIRCONIUM COMPLEX CHALLENGES DRIER FORMULATIONS

Advance Zirco Drier Catalyst* Activates Conventional Driers, Reduces Costs

New developments, the fruits of years of intensive research by Advance Solvents & Chemical Corporation, into metals not previously used as driers, promise to revolutionize drier formulations in the protective coatings industry.

One of these outstanding new products is **ADVANCE ZIRCO DRIER CATALYST 6%**, a zirconium organic complex in mineral spirits solution (zirconium content standardized at 6%). Not a drier in itself, ZIRCO activates and enhances the effect of primary driers, such as cobalt and manganese.

Proven in actual production use, Advance ZIRCO Drier Catalyst 6% offers the substantial advantages, in many cases at lower cost, of better through dry, improved hardness, fume-proofness, non-toxicity**, higher gloss and reduction of drier adsorption.

By its synergistic action on other driers, ZIRCO enhances their activity. This is clearly demonstrated in formulations where part of the primary

drier is replaced by ZIRCO. Such combinations as ZIRCO-Cobalt, ZIRCO-Manganese, ZIRCO-Cobalt-Manganese, give equal drying time, a better through dry, far superior hardness without embrittlement, better color and a substantial reduction in drier adsorption.

ZIRCO is unique in its action as, in combination with primary driers, it acts as a primary drier itself. On the other hand, it can completely replace secondary driers such as lead.

This new concept in drier formulations opens considerable opportunities to the protective coatings industry. Advance ZIRCO Drier Catalyst 6% is outstanding in industrial finishes (air and force dry), trade sales, outside white and fume-proof paints, alkyd enamels, soft oils, aluminum paints, non-toxic paints, etc.

* Patents Pending.

** Zirconium metal is considered to be non-toxic, and we believe this catalyst, because of its chemical structure, is non-toxic, although no warranties are made in this respect.

RARE EARTH DEVELOPMENTS

FROM ADVANCE LABORATORIES

The other important Advance drier developments are *Rare Earth Naphthenate 4%* and *Rare Earth Octoate 6%*. These compounds contain not just one rare earth metal but, mainly, cerium and lanthanum with traces of other rare earths, permitting these Advance products to serve as Cobalt substitutes, directly, in baked finishes.

In general, the use of Advance Rare Earth Naphthenate 4% offers these advantages: Excellent color retention in baked films not found in competitive rare earth salts; marked drying

efficiency; savings in cost by reducing amino resin additions; improved water and soap resistance of film, and imparts increased cross-linking in molecular structure, resulting in tougher and harder films.

FOR BAKED WHITE ENAMELS

Startling results have been found in baked white enamels by the use of ZIRCO with Advance Rare Earth Salts. Information is available upon request.

Specific Advantages Noted

The advantages offered by drier modification with Advance Zirco Drier Catalyst 6% in various types of finishes, in addition to reduction in drier adsorption, include:

EXTERIOR HOUSE PAINTS—Improved through dry, hardness without embrittlement and fume-proofness.

OLEORESINOUS FINISHES—Better gloss, improved hardness and non-toxic** properties, fume-proof qualities and replaces lead on a 1:10 basis.

ALKYDS—Improved drier stability when ZIRCO Catalyst 6% replaces lead, less drier staining, excellent gloss (freedom from hazing and wrinkling), better through dry and hardness and non-toxicity**.

AUTOMOTIVE AND INDUSTRIAL FINISHES (Force Dry)—Uniformity when parts are baked in different ovens, better gloss and freedom from discoloring, "whiter" white coatings, less wrinkling and improved adhesion.

The tremendous possibilities inherent in Advance ZIRCO Drier Catalyst 6% are more fully explored in a comprehensive data sheet, available upon request.

FOR OTHER INDUSTRIES

In the polymerization of silicones, ZIRCO has been found to be an excellent catalyst and prolongs the shelf life of the catalyzed solution.

Because of its excellent color retention ZIRCO can be utilized as a partial replacement of cobalt promoters when used with peroxide catalysts in the polymerization of polyesters.

ADVANCE SOLVENTS & CHEMICAL CORP. 245 Fifth Avenue, New York 16, N.Y.





The Mysterious Source of the Profitable Metal

WHAT manner of men were these who came—no one knew whence—bearing tin. And left—no one knew whither—bearing gold. They were the Phoenicians; they were merchants; they kept their own counsel. Silence stood guard at their source of supply and kept their profits safe.

Some said they obtained the metal from Cornwall in England—once called the "Tin Isles". And those who coveted went to seek—fruitlessly. The bearded Phoenicians smiled and sailed—and sailed and smiled.

Today the only mystery concerning tin lies in the unlimited uses to which it can be adapted. Metal & Thermit Corporation, through research, is constantly seeking and finding new ways of employing tin and tin chemicals. If you have a tin problem, "sign on" with M & T. Perhaps we can solve it together.



METAL & THERMIT CORPORATION

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THERMIT WELDING
METALS and ALLOYS
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CHEMICALS and ANODES for Electroplating
CERAMIC OPACIFIERS
STABILIZERS for Plastics
TIN, ANTIMONY and ZIRCONIUM CHEMICALS

B & I

tons or more in the "near future." The Italian polyethylene is selling under the tradename Fertene.

Ammonium Sulfate/Spain: Hidro Espanola S.-A. has received permission from Spanish authorities to manufacture sulfuric acid and ammonium sulfate near Tarragona. Projected capacity within three years: 95 tons/day of ammonium sulfate.

Potash/Israel: Establishment of a government-sponsored company for the transportation of Dead Sea potash and Negev Desert minerals has been decided upon by the Israel Ministry of Communications. Back of the move: an attempt to offer competition to the Tovella Co., now dominating the market, which recently ordered 40 20-ton Autocar diesel trucks from the U.S. In line with its decision, the Ministry of Communications also called for decontrol of haulage tariffs, lowering of over-all rates.

KEY CHANGES . .

Donald C. McGraw, to president, McGraw-Hill Publishing Co., Inc., to succeed his brother, the late Curtis W. McGraw.

Marion Ricketts, to president, Strong, Cobb & Co., Cleveland.

Katherine Takamine, to president, **Homer Fritsch**, to director, Takamine Laboratories, Clifton, N.J.

Jacob White, to vice-president, Allied Chemical's nitrogen division.

W. H. McConnell, **C. E. Lyon** to vice-presidents, Diamond Alkali, Cleveland.

William Haude, to marketing vice-president, Grace Chemical, New York.

George White, Jr. to executive vice-president, Vitro Corp. of America, New York.

Victor Mars, to vice-president, research and development, Ansul Chemical, Marinette, Wis.

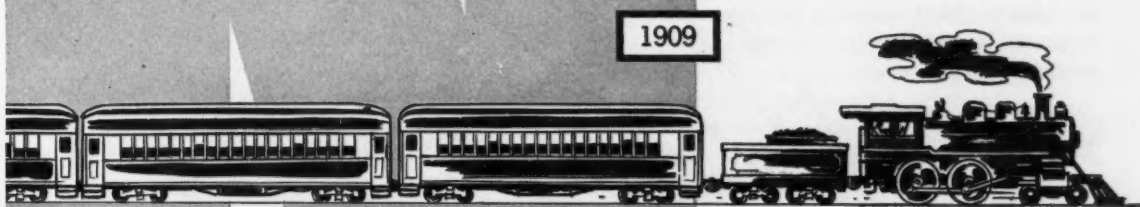
William Wagnitz, **John Thompson, Jr.**, **Otto Langhans**, to directors, Engelhard Industries' American Platinum Works, Newark, N.J.

W. E. Hanford, to director, Pullman, Inc.

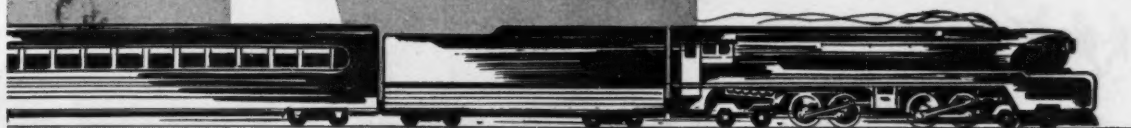
Herman Sokol, to manager, Heyden Chemical's antibiotic division, New York.

Leland Smith, to director of transportation, Consolidated Chemical Industries, Houston, Tex.

- **SODIUM BICHROMATE**
- **SODIUM CHROMATE**
- **POTASSIUM BICHROMATE**
- **SODIUM SULPHATE**



over 40 years of progress in chemicals

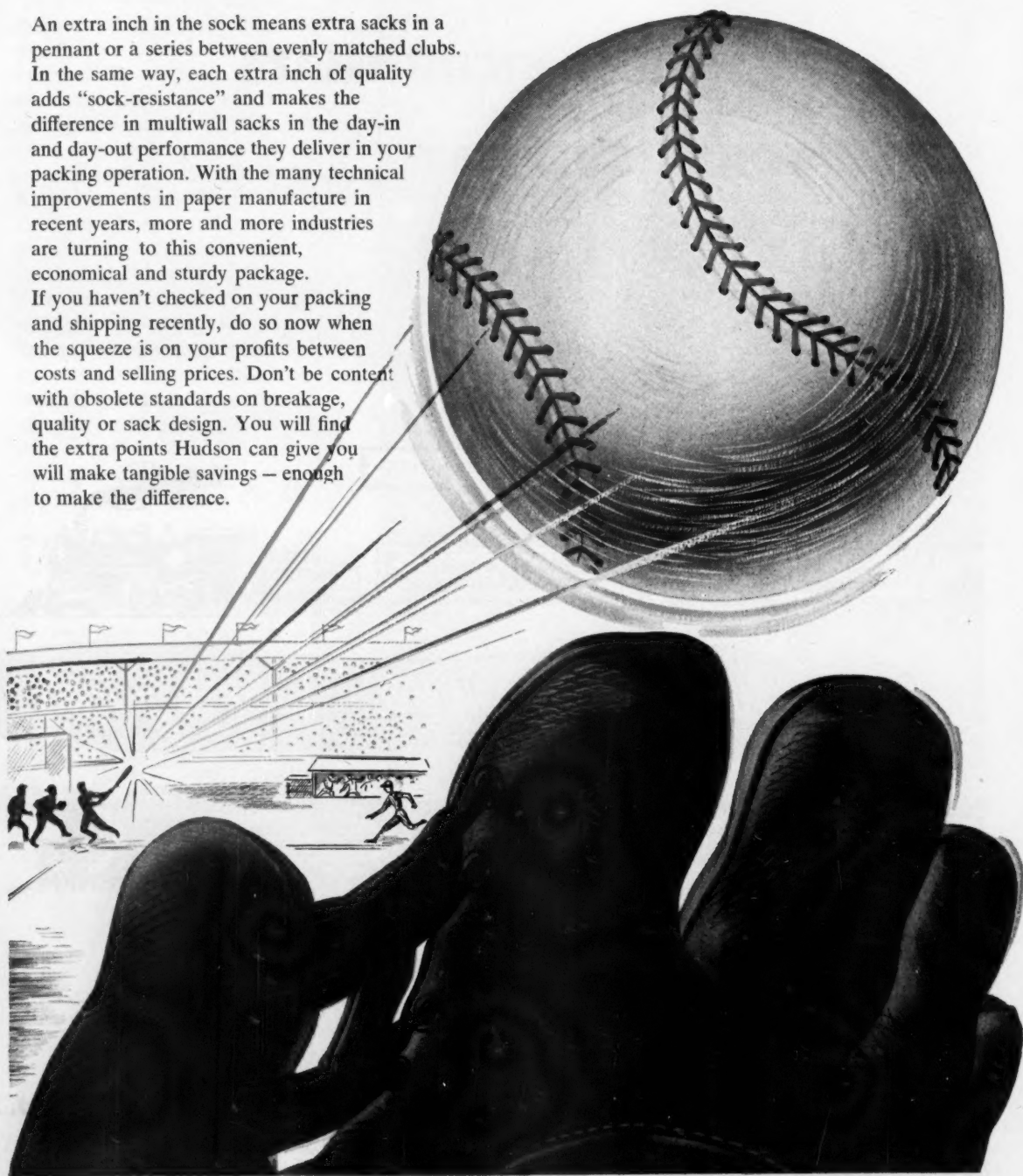


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An extra inch in the sock means extra sacks in a pennant or a series between evenly matched clubs. In the same way, each extra inch of quality adds "sock-resistance" and makes the difference in multiwall sacks in the day-in and day-out performance they deliver in your packing operation. With the many technical improvements in paper manufacture in recent years, more and more industries are turning to this convenient, economical and sturdy package. If you haven't checked on your packing and shipping recently, do so now when the squeeze is on your profits between costs and selling prices. Don't be content with obsolete standards on breakage, quality or sack design. You will find the extra points Hudson can give you will make tangible savings — enough to make the difference.



difference

EXTRA POINTS for Hudson

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—from tree planting to sacks, Hudson is an integrated operation.

PRODUCTION UNIFORMITY

—because all Hudson sacks are produced on modern equipment.

RIGID INSPECTION

—a 39-point inspection and test program.

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—with your assurance of satisfaction in advance.

MODERN PRINTING PLANT

—for extra display appeal and increased sales for your product.

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—by Royer & Roger, Inc., leading industrial designers, yours exclusively from Hudson.

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—Movies of your packing operation for efficiency study.

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—specialists to study your requirements.



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Because *all* Hudson sacks are made in one of the industry's most modern paper and sack manufacturing plants, you have the advantage of uniformity and quality unexcelled.

Hudson's integrated operation from pines to paper, from seedling to sack, all under modern production facilities and technical inspection standards, give you multiwall sacks you can depend on for maximum efficiency and minimum breakage.

As a result of its 39-point inspection and test program, Hudson is able to give a written guarantee on the performance of Hudson multiwalls. This guarantee is not only an assurance of satisfactory sacks, but even more important, a promise in advance that your losses of time, labor and power through breakage will be low.

Get the story on Hudson's modern plant, the Hudson guarantee and Hudson quality. Send the coupon below for the 46-page illustrated booklet on "What to Look for in a Dependable Source of Supply." Get full details on what Hudson can do for your packing operation to give you savings that are enough to make the difference.

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YES! I'd like more information on Hudson multiwall sacks. Please send me the 46-page illustrated book, "What to Look for in a Dependable Source of Supply".

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ELECTRONIC TUBE CHEMICALS
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Particularly in demand are chemicals required for electronic purposes.

If you need such chemicals—either for defense or for civilian use, or for both—inquire first of Baker. Baker currently is in a position to supply large tonnage quantities of electronic tube chemicals to established standards of purity. Should your requirements for electronic tonnage chemicals demand exceptional and exacting specifications, Baker will be glad to discuss your needs in confidence.

Baker has long been trained in the art of exactness. It has, for many years, supplied chemicals to a defined purity "by the ton." We invite you to call upon Baker—and to depend upon Baker as a reliable source of supply.

J. T. Baker Chemical Co., *Executive Offices and Plant,*
 Phillipsburg, New Jersey.

...for civilian needs

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Aluminum Nitrate	Magnesium Oxide
Aluminum Sulfate	Potassium Hydroxide
Ammonium Hydroxide	Silicic Acid
Barium Acetate	Sodium Hydroxide
Barium Carbonate	Strontium Carbonate
Barium Nitrate	Strontium Nitrate
Cadmium Chloride	Zinc Oxide
Cadmium Sulfate	Reagent Grade Acids
Calcium Nitrate	Cathode Coatings



Baker Chemicals

REAGENT • FINE • INDUSTRIAL

PRODUCTION

Deluge

OR

Drought . .



WIDE WORLD



WIDE WORLD

Looking Ahead Saves the Builder



... Looking Ahead Saves the Builder

(Story begins on page 45)

Rain, heat or snow may not stay the postal courier from his appointed rounds. But they can certainly wreak havoc on a construction timetable. Chemical firms, which have learned this the hard way, are now finding it possible to tailor their schedules to fit the weather. All that's needed: a reliable forecast of the weather, a few rules, a little common sense—and a lot of good luck.

Getting a weather forecast that's 100% reliable is, of course, impossible. But there's a rash of forecasting services springing up that can pin down the long- or short-range pattern with a reasonable degree of accuracy.

And more and more organizations are becoming aware of the importance of weather to construction plans. *Engineering News-Record*, for instance, the builders' bible, has recently started publishing temperature and precipitation probabilities for the upcoming six months. ENR's figures are not intended to be a long-range forecast, however. They're simply observed norms based on long histories as recorded by the U.S. Weather Bureau.

The USWB has its own Extended Forecast Service, headed by Jerome

Namais, one of the country's top weather forecasters. But unfortunately for the construction man, Namais' bureau is intended primarily as a service for the general public. Its forecasts cover such large geographical areas that very often only average conditions within the area are considered.

Western Union, which like the USWB has had a long-standing interest in weather (it lays claim, in fact, to having issued the original weather map), has just signed an agreement with the National Weather Institute (Los Angeles, Calif.) to sell the latter's long- and short-range forecasts. NWI offers 25 different types of forecasts, each of which is adapted to fill a particular customer's needs.

Irving Krick, meteorological consultant of Denver, Colo. (who's probably better known as a rainmaker), also offers both short- and long-range forecasts. Northeast Weather Service (Lexington, Mass.) shies away from long-range predictions, specializes in short-range forecasts for the New York and New England areas.

Do It Yourself: The other way of getting a good idea today of what the weather will be tomorrow is to

hire your own meteorologist. Du Pont, for one, does just that. It has had a staff of meteorologists since 1943. Originally the idea was that they would advise on new plant locations and pollution problems. More recently, the staff has been forecasting weather for construction purposes.

Du Pont, in fact, has made a revealing study on the whole subject. It found that the techniques of pouring and finishing concrete varies considerably under different intensities of rainfall, also learned that relative humidity has a significant effect on the rate of "dry out" for concrete. It went into the effect of temperature on the operation of heating and cooling units and how sudden drops in temperature affect instrumentation. Always safety-conscious, the firm investigated the effect of wind on roofing operations and other work aloft on scaffolding and power lines.

At the Right Time: It's only good sense to save your indoor work for foul weather, do the outdoor jobs when the sun is shining—no news to firms that specialize in building chemical plants. This is how they work it out:

- Bechtel Corp. uses monthly reports from the USWB to determine



Hailbusting Secret Out

BUT IF YOU don't want to tailor the schedule to fit the weather, you can always make your own weather, as Harvey Brandau and Eugene Kooser, two West Coast, ex-GI pilots, do. They've won fruit-growers' respect (and cash) by apparently preventing costly hail storms in Oregon's Rogue River Valley. They do it by spewing an "Element X" into mountain thunderheads. The two men had long boasted that their secret was so simple anyone could do it if he knew what to use. Now, to comply with a new Oregon law, they've had to reveal the composition of the compound: sodium chloride. At the same time, the two warn, "It isn't always what you use, but how you use it, that's important."



in DULUX...



*Glycerine alkyds
provide Durability*

The DuPont Company pioneered the development of alkyd resin finishes during the twenties, and for many years has used Glycerine alkyds in its popular "Dulux" finishes to provide gloss and color retention, durability, and relatively fast dry. Dulux's unusual combination of properties makes it a favorite in applications ranging from house shutter and trim paints to automotive finishes...from refrigerator and appliance coatings to marine paints.

When alkyd resins were first introduced, they virtually revolutionized the paint industry. E. I. duPont de Nemours & Company has used Glycerine alkyds since the twenties to formulate many of its famous finishes for the industrial, automotive, and trade sales fields.

Glycerine-derived alkyds improve color retention and film toughness in air-drying coatings for metal equipment. They contribute flexibility and adhesion to baking finishes—where their compatibility with other resins like ureas and melamines is essential.

America's leading paint makers have also found Glycerine easier to work with in the critical resin-making operation. For light-colored alkyds, Glycerine is available to meet the exacting standards of the color-conscious paint industry.

"Why Glycerine for Alkyd Resins and Ester Gums?" tells the story of these applications with detailed information on the chemical and physical properties of Glycerine. For your copy, write Glycerine Producers' Association, 295 Madison Ave., New York 17, N. Y.

Nothing takes the place of Glycerine

WHITER WHITES with MDAC...

(4-Methyl-7 Diethyl
Amino Coumarin)

MDAC is a fine organic compound which, in very dilute solutions, gives a bright blue-white fluorescence in daylight or ultra-violet light. This fluorescent action gives a striking optical bleach or whitening effect. Because of its wide range of solubility and its highly efficient bluish fluorescence, MDAC offers many potential uses.

★ COATED PAPERS

The addition of MDAC to paper coatings and surface sizings effectively whitens and brightens the appearance of paper. MDAC absorbs the ultra-violet component of white light, and converts this unseen portion of the spectrum to visible blue light which is just the right color to render neutral the slightly brown, naturally reflected light of the paper stock.

★ TEXTILES

MDAC is highly substantive toward viscose and cellulose acetate rayon, nylon, orlon, dacron, wool, and other synthetic and protein fibers. Although not substantive on cottons, MDAC can be effectively secured to cotton fabric through the use of finishing agents and related fabric treating compounds.

The bright fluorescence of MDAC enhances and lends "life" to colors.

★ FILMS AND SHEETS

MDAC overcomes yellow casts of label and overprint varnishes composed of zein, allyl starch, and polyamide and vinyl resins. It reduces the film tinting strength of these varnishes on paper.

In the presence of basic stabilizers, MDAC is an excellent whitener for clear vinyl sheets.

★ SOAPS, DETERGENTS AND STARCHES

Soaps, detergents, and starches, as well as the fabric on which they are used, are whitened and brightened by the addition of MDAC.



**CARLISLE
CHEMICAL
WORKS, INC.**

READING 15, OHIO

PRODUCTION

its production schedules. It uses only long-range forecasts though, not day-to-day reports. The reason for this, Bechtel points out, is that in building a dam, for instance, it must divert streams—a job that can't be done overnight. It has to get equipment for the job, hire the men and then have a reasonable assurance that the weather won't interfere with the operation.

It also relies on records of firms that it is working for. Many utility companies, for example, have long area histories of weather. In its pipeline division, it buys regular forecasting from Krick. In its other jobs, Bechtel uses any type of weather reports available.

- The Lummus Co. points out that a large portion of its construction work is done in the Gulf Coast area. Through years of experience it has become familiar with the weather pattern there, feels no need to subscribe to any long-range forecasting service. For short-range predictions (maximum: 72 hours), it relies on the client.

- Fluor Corp. no longer subscribes to a weather service on a permanent basis. It found it could save money by using Krick's forecasts on a spot basis. For instance, if it has a lot of concrete to pour, it might get a month's forecast to choose the most favorable time. Its principal use for forecasting, however, is in areas with severe winters. Then it can tell whether a cold spell will be short and the crew should be held on, or whether winter has settled in and the crew should be cut. It might also use the service for an area like Houston that has an extended rainy season.

- Foster Wheeler gets basic weather data from the USWB or other agency such as a nearby airline or university. But that's done only during the preliminary engineering survey on a new job. During construction, the weather problem is left up to the field supervisor who gets his own data, schedules construction accordingly.

Matter of Opinion: Everyone agrees that a knowledge of weather conditions beforehand is a big aid in building a plant. But not all agree that the best way to get the knowledge is through the professional services. Says one: "We tried one for a while, then decided we could do almost as well with an almanac."

The same mixed feelings are found among manufacturers of antifreeze, insecticides or other products whose rate of production is geared directly to the weather pattern. They're eager to know in advance if it's going to be

hot and dry, or cold and damp. For them, like the builders, it's the "whether" in weather that counts.

Better and Cheaper

When good fellows get together, they're likely to talk about anything. But if they're members of the American Institute of Chemical Engineers, their discussions will center around their common interest: ways of building better plants cheaper. That's what 1,000 of them did at the national meeting of the A.I.Ch.E. at the Fairmont Hotel in San Francisco last fortnight.

Sponsored by the Northern California Section, the meeting was one of the four gatherings the institute holds every year. The San Francisco program was rounded out with a Get Acquainted Evening, a "typical Mexican luncheon" and a special ladies' program. Technical sessions started with a symposium on Economic Evaluation of Chemical Projects. In addition to the four general sessions, there were symposia on mixing, chemical engineering fundamentals and ion exchange. Here are some of the highlights of the four-day affair:

- California Research Corp.'s E. B. Chiswell and J. J. Merrill considered capital costs for a petrochemical project. To prove the importance of capital investment as a single cost item, they cited the \$8-million cost of a 45 million lb./yr. ethylene oxide plant. Since ethylene oxide sells for about 16¢/lb. and rapid obsolescence of the process entails amortization at about 7¢/lb., design of the plant to minimize capital investment is essential.

- Competitive processes for making acetylene from natural gas came up for discussion by M. J. P. Bogart and R. H. Dodd of the Lummus Co. They analyzed capital investment for a regenerative (Wulff) process and a partial combustion (Sachse) process. The two processes differ in their approach to the problem, therefore call for a careful analysis of the necessary investments.

- Ammonia processes also were evaluated in a paper prepared by The Girdler Co.'s B. J. Mayland, E. A. Comley and J. C. Reynolds. They noted the trend from coal to natural gas for making synthesis gas, accented improvements along those lines, compared several processes.

- Nevin Hiester, Raymond Cohen and Russell Phillips of Stanford Research Institute made an engineering and economic evaluation of moving- and fixed-bed ion-exchange processes. For some operations (e.g., the removal

INTEGRATED ENGINEERING

... FOR THE CHEMICAL INDUSTRIES

PRELIMINARY EVALUATION

Process comparisons and cost surveys to indicate direction and value of further detailed engineering design.

DEVELOPMENT AND PILOT PLANTS

Initial process designs developed from laboratory stage to semi-commercial operation in pilot plants . . . Close supervision and follow-up by experienced engineers.

PROCESS DESIGN AND ENGINEERING

Process unit design based on pilot plant, operating or basic data . . . Equipment, accessory and instrument specifications . . . Estimates of capital investment and operating costs.

PROJECT ENGINEERING

Thorough coordination to maintain job schedules . . . Design check, detail specifications, procurement and overall supervision.

MECHANICAL ENGINEERING

Data and drawings ready through direct supervision of plant and equipment layout, piping layout, detail drawings, material lists, and structural and electrical engineering services.

PROCUREMENT

Strict maintenance of job budgets and schedules by careful analysis of competitive bids, sound purchasing and alert expediting . . . Periodic reports to client.

CONSTRUCTION

Experienced field management of site preparation, excavation, foundations, erection, installation, painting, insulation, testing, and clean-up . . . Complete set-up of plants for initial operation.

INITIAL OPERATION

Significant savings through initial charging and thorough test runs by our own experienced engineers, plus careful training of client's operating staff.



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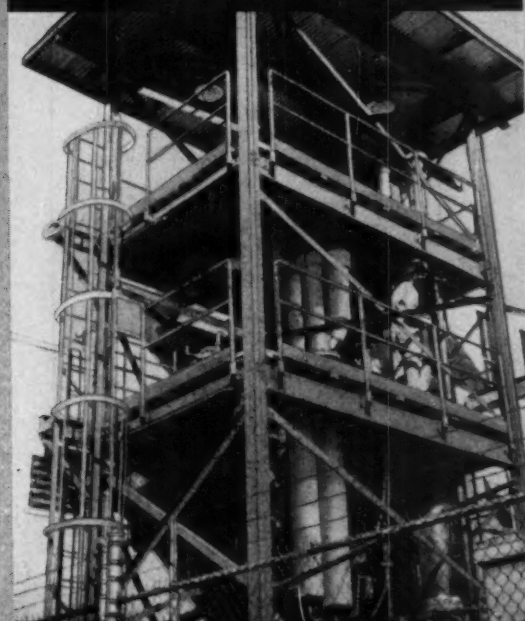
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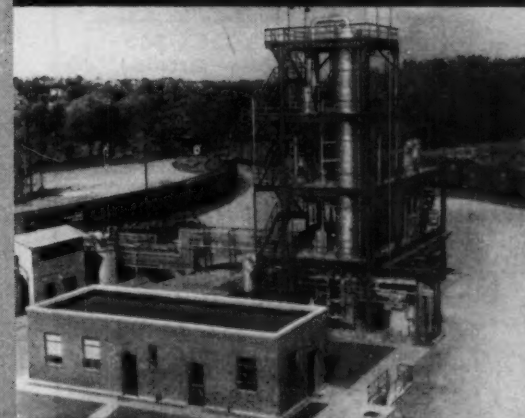
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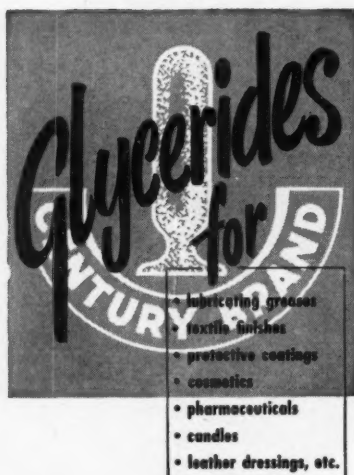
Petrochemical finishing unit



Ethylene oxide pilot plant



Vulcan-built solvent recovery unit
for pharmaceutical plant



CENWAX G (Hydrogenated Castor Oil)

CENWAX is a glyceride chemically, although physically it resembles a wax. It is a hard, high melting point solid, available in finely beaded form, with practically no taste or odor. Typical applications are in lithium, barium or sodium greases; hot-melt paper coatings; extender for higher priced waxes in polishes. These CENWAX G specifications should suggest other uses:

F. F. A. (as Oleic Acid)	2.0 max.
Acid Number	4.0
Saponification Number	176 — 184
Iodine Value (WIJS)	1 — 5
Melting Point (°C)	82 — 85
Hydroxyl Value	155 — 165
Acetyl Value	137 — 148

CENTURY HYDREX 360 (Hydrogenated Tallow Glyceride)

This hardened tallow product is available in beads and its good color, high titre and low iodine value particularly suit it for use in certain textile finishes and lubricating greases.

Specifications	
Titre (136.4-140.0°F)	59—60.0°C
Iodine Value (WIJS)	1—3
Free Fatty Acid	1—3%
Acid Number	2—6
Saponification Value	190—195
Color 5¼" Lovibond Column (Max.)	15 Yellow—2 Red

W. C. HARDESTY CO., INC. CENTURY STEARIC ACID PRODUCTS, INC.

41 East 42nd St., New York 17, N. Y.
Plant: Dover, Ohio
In Canada: W. C. Hardesty Co. of Canada Ltd.
Toronto

PRODUCTION

of minerals from water on a big scale), they concluded that capital investment can be lowered by operation with moving beds of ion-exchange resin rather than the cyclic operation of fixed beds. Dow's W. C. Bauman also discussed the relative merits of batch and continuous ion-exchange processes.

More on the theoretical side but equally significant were the discussions on unit operations:

- Better design and cheaper equipment will be the result of their study, said R. R. Hughes, A. E. Handlos, H. D. Evans and R. L. Maycock of Shell Development Co. They've employed high-speed photographic techniques to study the formation of bubbles at simple orifices. A better understanding of the mechanism, they think, should permit new design and calculation methods.

- A group of studies was presented on multiflow systems. The goal of the studies is to make equipment design more theoretical, less empirical.

- Recent distillation work also got a thorough going-over. Included were discussion of heats of vaporization of a binary mixture; phase equilibria in systems with supercritical ethylene; and vapor-phase equilibria of a system made up of hydrogen chloride and ethane.

EQUIPMENT

Fine Grinder: The Schutz-O'Neill Co. (Minneapolis) thinks it has a new answer, with its Superfine pulverizer, to some old grinding problems. It makes use of centrifugal force and air currents to grind by sheer and impact, has an internal classifier to recycle oversize. It can handle, better than competitive mills, says the maker, heat-sensitive materials or ones that have a tendency to cake. It adds that the mill gives greater capacity for a smaller investment. In fact, the firm claims it can be installed for from one-quarter to one-half the cost of competitive grinders. Size of the products turned out by the mill: coarse (20 to 80 mesh); fine (80 to 200 mesh); superfine (200 to 400 mesh); and ultrafine (3 to 5 microns).

• **Cycle Converter:** As Georator Corp. (Manassas, Va.) sees it, there's been an increasing need for 400 cycles for high-speed motors, small hand power tools and other devices. Its answer is a unit to convert 60 cycles to 400. It's available in outputs of 150 volt-ampere to 25 kva. single- or three-phase. It's said to be compact, efficient, easy to maintain.

Now of Gold: Having made low-pressure rupture discs from base metals and from platinum for 20 years, Baker & Co. (Newark, N.J.) has now come up with one made of gold. The goal was to develop a disc that would rupture consistently at low pressure and still offer the benefits of precious metals. As Baker figures it, gold, since it is softer, has a decided edge over platinum. The firm also points out that while rupture discs are simple flat pieces, making them is no cinch, for tolerances have to be held to plus or minus 5% of the specific bursting pressure for requirements above 50 lbs., and plus or minus 2% for pressures below 50 lbs. The gold discs should not be much more expensive than ones made of base metals, says Baker, since if simple precautions are taken, none of it is lost after a rupture.

• **Certified Lots:** Resistoflex Corp. (Belleville, N.J.) stakes out a claim to a first with Teflon fluoroplastic. It claims quality control and certification, inaugurated by the firm, enable the buyer for the first time to get test reports on a particular lot of material he ordered.

• **Alarm System:** The Instrument Div., of Thomas A. Edison, Inc. (West Orange, N.J.), will introduce a new temperature-indicating and alarm system at the Eighth National Instrument Exhibit in Chicago, this week. It sees the system as being a big improvement over anything now on the market. It says the system does its job without electronic tubes or moving parts, requires no personnel training to operate, identifies trouble spots on almost any type of equipment where high temperatures are a potential hazard. It adds that maintenance is low, and there are no switches that can be left in the wrong position.

• **Quick Heating:** If you need instant heat and can't use an acetylene torch, try its new Thermotrode, says Eutectic Welding Alloys Corp. (New York City). The firm sees it as the answer for quick heating, softening, burning off paint, or other applications whenever it's impossible or impractical to use an acetylene torch. To use, the Thermotrode is simply inserted in the electrode holder of a dc arc welder. Eutectic explains that the new steel-core electrode features a flux that establishes a unique type of arc. Instead of being deposited, the core metal is oxidized, disintegrates into a powder that can be brushed off.

AFTER 21 YEARS....

THE **EDWAL**

LABORATORIES, INC.

changes
its
name
to

RINGWOOD

C H E M I C A L C O R P O R A T I O N

The new corporate title better describes our activities as large scale manufacturers of organic chemicals of high purity for the process industries.

Over one half million dollars spent on additions to plant and equipment at Ringwood, Illinois, during the past several years enables us to serve our old customers better and to solicit new inquiries for tonnage quantities of fine organic chemicals.

New automatic equipment increases our capacity for private label formulation and packaging. An expanded research and development group helps us solve your raw material and product problems.

The same management and staff that built the Edwal reputation for technical competence, for imagination in research and development, for production efficiency and quality, will carry on the operations of the Ringwood Chemical Corporation.

We are as close as your phone. Call on us for fine chemicals.



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PHILIPS DEMONSTRATION: Talking isn't enough; if you want them to buy . . .



. . . you've got to show them.

Education With an Angle

It's easy to get a research director interested in an instrument that can give quick answers to formidable laboratory problems. Getting him to buy, at a cost of \$10,000-plus, is considerably more difficult; the prospect of justifying that kind of outlay is guaranteed to make him think at least twice, even if he's completely sold on the merits of the device.

That's the problem confronting General Electric Co. and North American Philips, the two domestic manufacturers of X-ray diffraction equipment for research and industrial process control. It's also the force behind the annual X-ray diffraction schools conducted by both companies. Free to industrial and academic scientists, the X-ray sessions are a novel and mutually rewarding approach to the instrument manufacturer's dilemma: they help sell diffraction units; and they provide a place to which researchers can bring their X-ray headaches, depart with not only the cure but also a hatful of information on the latest in diffraction techniques and accomplishments.

Jack Woods, sales manager of North American Philips' research and control instrument division, puts it this way: "You've got to show them how to use it if you want them to buy it. What they don't know will hurt us." An industrial petroleum researcher,

fingering a spectrometer at a recent Philips school, wistfully confirmed the corollary. "With stuff that costs this kind of money," he admitted, "management is in no hurry to buy. You have to show what it can do."

To show in no uncertain terms exactly what X-ray can do, both GE and North American Philips expose their knowledge-seeking guests to a five-day period of lectures and demonstrations by a faculty of leading industrial and academic authorities. Within the last fortnight, GE's Milwaukee sessions marked the mid-point of an X-ray school season that has seen the establishment (by North American Philips) of the first course of diffraction instruction in the West.

Prompted by the success of its diffraction schools in the East, the Mt. Vernon, N.Y., firm invaded the West during the week of Aug. 24, set up \$70,000 worth of equipment at San Francisco's bustling Sir Francis Drake hotel. One hundred registrants flocked to San Francisco, stayed for five days of expert discussion and demonstration of X-ray theory and practice.

Add to this number the 70 industry and government people at the recent General Electric Milwaukee get-together, throw in another several score for Philips' upcoming (next week) Mt. Vernon, N.Y., session and you get a fair index of X-ray diffraction's importance as a modern research tool.

But these figures don't tell a more significant story of the growth in interest and applications of X-ray diffraction in recent years. Back in 1927, when General Electric offered its first diffraction apparatus, the metallurgical industries stood almost alone in their appreciation and utilization of the X-ray technique. Not until 15 years later did industrial interest—sparked, in good measure, by North American Philips' introduction and promotion of modern diffraction equipment—perk up.

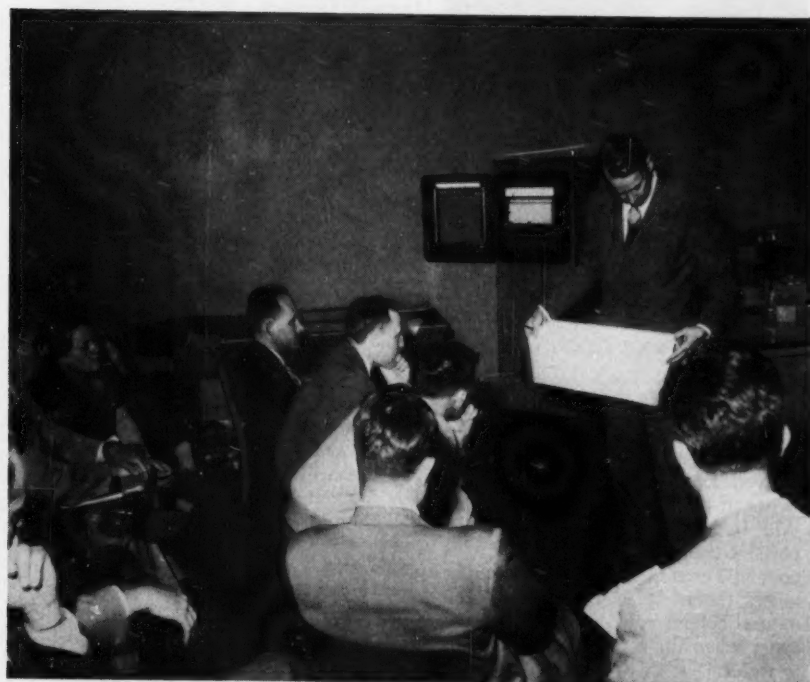
In the past 11 years, diffraction units have become familiar sights in nearly every reasonably equipped industrial laboratory; and X-ray techniques have played a part in just about every major technical development of the past decade.

Today, X-ray diffraction is playing a vital role in every area of chemical and physical research where crystal structure, atomic configuration and molecular orientation are factors. And that covers a lot of ground.

In the chemical industry, for example, it is proving invaluable in the development of plastics, films, synthetic fibers, pigments and new polymers of all kinds. In the pharmaceutical industry, it is a powerful weapon in the discovery, character-



GE MILWAUKEE SESSION: A place to cure diffraction headaches . . .



. . . get a hatful of information as well.

ization and synthesis of antibiotics and hormones. X-ray diffraction has made important contributions to the elucidation of the structures of terramycin and aureomycin.

Electronics researchers are using diffraction in transistor and phosphor development. X-ray diffraction already

has materially aided in the development of the improved phosphor combinations used in today's fluorescent and television tubes. And diffraction is important in the production of quartz crystals for oscillators, fine carbon black for electronic resistors. In electrical manufacture it aids in the

selection of manganese dioxide of optimum crystal structure for battery use, and in the production of oxide powders for transformer cores, and carbon brushes for motors.

Petroleum scientists put diffraction to advantage in catalyst studies, determinations of hydrocarbon structures, and in corrosion research.

The metallurgical industry is finding X rays indispensable in probing physical and crystal properties of alloys, determining the effect of processing on metals and alloys, investigating the corrosion characteristics of aluminum, and defining the characteristics of scores of useful new metals (titanium, zirconium, etc.) and alloys.

Diffraction is also paying dividends in paper, cement and ceramics research. Far from complete, the above list highlights the long stride X-ray diffraction has taken in little more than a decade.

Triple Appeal: Attraction of diffraction instruments hinges on their ability to analyze—rapidly, accurately, and nondestructively—most crystalline materials. This attribute, in turn, is based on the ability of X rays to penetrate a crystalline substance, be diffracted in a characteristic pattern.

Instruments are differentiated according to the three methods of detecting the diffracted rays: film (diffraction camera); Geiger counter (spectrometer); analyzing crystal and Geiger counter (spectrograph). By means of the diffraction camera and spectrometer, qualitative and quantitative data on the structure and composition of compounds, metals, mixtures, etc., may be obtained over a broad range of working requirements. The spectrograph gives quantitative analyses of elements, free or combined.

Aside from their research function, the Geiger-counter X-ray spectrometer and the X-ray spectrograph do yeoman service as production control instruments in a variety of industries. The diffraction camera is handicapped by need for darkroom service.

Although it would be mighty difficult to define the value of their educational efforts in terms of sales, GE and North American Philips are enthusiastic about the whole idea. Not the only attempt* at rendering the high-cost equipment pill more palatable, the diffraction schools have a corollary goodwill value that could pay off handsomely. Not insensitive to this appeal, GE—following Philips' lead—is planning to call its diffraction school to order at more frequent intervals.

* GE has an equipment rental plan that offers certain economic advantages.

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NINOL
Alkylolamides

a unique
series of
nonionic
surface
active
agents

"They THICKEN when
they're THINNED"

An original development of NINOL LABORATORIES, this important series of nonionic detergents and emulsifiers comprises a group of amides derived from fatty acids and alkylolamines, with individual members ranging from water soluble liquids to insoluble waxes.

In addition to being excellent detergents and wetting agents, the NINOL alkylolamides (amine condensates) exhibit the following unusual properties:

VISCOSITY

Many of the NINOLS form viscous solutions which become even thicker as more water is added. This property is used to advantage in thickening shampoos, water-based hydraulic fluids, latex systems, cleaners, and other products.

RUSTPROOFING

Unlike most synthetic detergents, the NINOLS act as rust inhibitors in water due to their amine structure. In metal processing they are used as additives to cutting oil emulsions to prevent rusting of the work, and can also be added to the final rinse after cleaning.

FOAM

A wide range of foaming power includes low-foaming grinding aids for resins and high foaming detergents for dishwashing. Certain types also act as foam stabilizers for sulfonated detergents.

EMULSIFICATION

NINOLS are available for emulsifying materials ranging from microcrystalline wax and essential oil to synthetic rubber and plasticizers. Certain types are especially effective in forming water-in-oil emulsions.

Some interesting NON-SURFACTANT uses of the NINOLS are as: plasticizers and anti-static agents for plastics; finishing agents for synthetic fibers; lubricants for chain belts; anti-gelling agents for liquid starch; opacifiers for cosmetics.

Write us about your problem — the right NINOL may be the answer



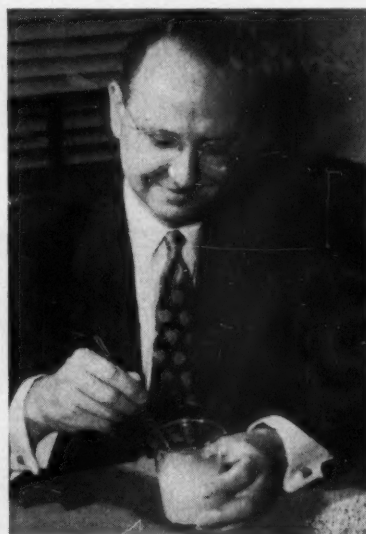
NINOL LABORATORIES, INC.
1717 S. Clinton St., Chicago 16, Ill.

RESEARCH

Boost For Nature

For a long time now, synthetics have hogged the industrial research limelight. But Stein, Hall and Company, Inc. (New York) hasn't written nature off, backs up its conviction with a new natural hydrophilic colloid tagged Jaguar. The product is a refined guar gum produced in commercial quantities at Stein, Hall's Long Island City plant. A pure vegetable colloid, the new gum should be useful to the food, pharmaceutical, and cosmetic industries.

The gum is obtained from the seed of the guar plant, which originated in Asia but grows in Southwest U.S. as well. The idea of making a commercial colloid from guar seed is



STEIN, HALL'S GUSMAN: Guar gum, out of its shell.

hardly a Stein, Hall exclusive. In 1943, for example, General Mills (Minneapolis, Minn.) launched a product derived from the locust bean, later switched to guar seed when World War II stifled Asian locust bean exports. General Mills put in crops of guar in Texas in 1951-52 but drought killed them. It is not making the natural colloid now, but probably will again when the foreign price for seed is right.

Stein, Hall gets its seed from both foreign and domestic sources. The seed consists of three parts—hull, endosperm, and germ. The trick is to remove the hard outer shell, mill the refined colloid from the endosperm. The process is mechanical, gives a product that goes to market for 40 to 50¢/lb.

Because it swells in aqueous solutions, the new colloid is a promising

candidate for such jobs as tablet-disintegrating agent, bulk former in laxatives and appetite depressants. Added possibilities: in the manufacture of jellies and toothpaste.

Available: Newly available for licensing are 415 Du Pont patents, which will be listed soon in the Patent Office's Official Gazette. Du Pont patents for licensing now total 6,500.

Second Addition: Jefferson Chemical Co., Inc. is taking the wraps off two new air-conditioned buildings at its Austin, Tex., research center. Devoted to laboratory, library and office facilities, the new buildings constitute the second major addition to Jefferson's research center since its establishment four years ago. Upwards of 25,000 sq. ft. of additional floor area is gained by the expansion.

Oatmeal for Ulcers: Amino alcohols derived from oatmeal are giving medicinal chemists a new lead in the quest for better ulcer drugs. Researchers of Lakeside Laboratories, Inc. (Milwaukee, Wis.) reveal that derivatives, notably N-alkyl-3-piperidinols, exert a stronger antispasmodic action than atropine, bypass many of the latter's undesirable side effects. As of now, these reports are based on tests with laboratory animals. Other promising derivatives: N-methyl-3-piperidyl phenyl-2-thienylglycolate; benzhydryl ethers of 3-piperidinol; and p-aminobenzoic acid esters of 3-piperidinol.

The Long View: Gladding, McBean & Co. (Los Angeles) is the newest convert to the gospel of fundamental research. The West Coast ceramic products manufacturer has launched a long-range program of fundamental studies at Stanford Research Institute, will mesh its intramural research with the work at SRI. Gladding, McBean's laboratories at Glendale and Pittsburg will continue to deal with applied problems; SRI will delve into fundamentals, will be represented on the firm's research committee. The arrangement is the first of its kind undertaken by SRI.

Jet Sparked: Pinic acid from pinene is the goal of a new project at Georgia Institute of Technology's (Atlanta) Engineering Experiment Station. Of special interest to the aviation industry (pinic acid esters make good lubricants for jet engines), the research with turpentine-derived pinene is sure to command the moral support of naval stores producers. Support of a

• Davison Bulletin •

CONFIDENTIAL

Confidential handling of catalyst problems is one of the reasons why Davison is the major catalyst producer in the country. Intricate coding plus restricted internal distribution keeps your catalyst secrets safe in Davison hands.

Davison recognizes that catalysts are the heart of chemical reactions, therefore, they are a most carefully guarded secret. And Davison is equipped to meet the requirements of almost any given catalyst problem.

Bring your catalyst problem to Davison where you are assured of confidential handling. Call your Davison Field Service Engineer or write.



HYDROGEL to induce microporosity

Manufacturers are using economic hydrogel to induce microporosity in rubber, resins and plastics. Material is a highly hydrated amorphous silica. The hydrogel, which is incorporated in rubber products, shrinks during drying operations thereby inducing porosity.

Davison hydrogel ($\text{SiO}_2 \cdot x\text{H}_2\text{O}$) is colorless, translucent and available in semi-solid lumps or finely divided. The range of pH is 5.7 - 6.8.

For further information, samples, prices - call your Davison Field Service Engineer or write.

SOME STANDARD CATALYSTS AVAILABLE

$\text{V}_2\text{O}_5 \cdot \text{K}_2\text{SO}_4$ on Silica

$\text{SiO}_2 \cdot \text{Al}_2\text{O}_3$ Combination

$\text{Pt} \cdot \text{SiO}_2$ Combination

Hg Cl_2 on Charcoal

Progress Through Chemistry
THE DAVISON CHEMICAL CORPORATION
Baltimore 2, Maryland

Producers of:
Catalysts, Inorganic Acids, Superphosphates, Phosphate Rock, Silica Gels and Silicofluorides. Sole Producers of DAVCO Granulated Fertilizers.

Please send me information on

- ☐ Product Data Sheet - Davison Hydrogel
☐ Specialty Catalysts

Name Title.....
Company
Street
City Zone..... State.....

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RESEARCH

more tangible nature is being provided by U.S. Dept. of Agriculture.

More for Less: Cost of DL-ethionine, analog of DL-methionine, has just been slashed more than 50% by Mann Research Laboratories, Inc. (New York). Principal outlets for the amino acid are biochemical studies, cancer research. Cost-cutters: increased production; improved raw material picture.

Tar Boost: Tar Products Div., Koppers Co., Inc., is due for bolstering in the research department. The division will erect a one-story laboratory building on a two-acre site directly east of Koppers' Verona, Pa., research center. Approximately 40 persons will staff the new facilities.

Toxicant Hopefuls: Just-released results of more than three years' research (terminating in Dec. '52), carried out at the Anaheim (Calif.) laboratory of the U.S. Dept. of Agriculture's Bureau of Entomology and Plant Quarantine, are providing a flock of leads on potential commercial toxicants. Anaheim researchers tested 237 organic compounds as dusts and sprays against six species of insects. Comparative tests were conducted with Aramite, lindane, DDT and parathion. Promising neophytes: 4-(1,3,3,3-tetrachloropropyl)cyclohexene; 3-vinylpyridine; 1-(2-chloroethyl)-2-(p-chlorophenoxy)ethane; ethyl chlorophosphate; diethyl ester of trichloromethanephosphonic acid; and diethyl p-nitrophenyl ester of phosphorous acid.

The last-named material, reports USDA, was the most effective compound tested; at concentrations of 0.005% it caused high mortalities of armyworms and pea aphids. Ethyl chlorophosphate is a close runner-up, having proved about 20 times as effective as Aramite and 2.5 times as effective as parathion in killing citrus mites.

Film Former: Researchers of Imperial Chemical Industries, Ltd. are credited with the preparation of poly-3,3-bis-(chloromethyl)oxabutene, a new crystalline polymer capable of forming oriented films and fibers. The polyether is prepared by the polymerization of 3,3-bis(chloromethyl)oxa-cyclobutane.

For Better Spirits: Antibiotics may be headed for useful new lives in the distilling industry. That's the import of data revealed recently by Hiram Walker & Sons, Inc. (Peoria, Ill.),

which evaluated seven antibiotics in the control of bacterial infections that contaminate fermentation processes, found penicillin to be best suited for the job. Penicillin gave good results in commercial scale tests, could not be detected in whiskies and grain spirits produced with the aid of the antibiotic.

New Nitrator: A new nitrating agent for aromatics has been profiled by chemists of the University of Notre Dame. It's nitril chloride, readily prepared from nitric and chlorosulfonic acids. The new nitrator is most useful with aromatic compounds of intermediate reactivity. Highly reactive substances (e.g., phenol, anisole) tend to undergo oxidative degradation; deactivated aromatics (e.g., nitrobenzene, benzaldehyde) are, for the most part, unaffected by the reagent.

Mass Debut: A large group of synthetic organic chemicals will shortly be offered for research and experimental purposes by Eaton Laboratories, Inc., Norwich, N.Y. (subsidiary of Norwich Pharmacal Co.) Selected from more than 500 substances prepared by Eaton chemists, the new compounds include some 60 derivatives of furan, nitrofur and hydrazine. Most have never before been available.

Fungus Fighter: A new antifungal agent has been discovered by chemists of Sterling-Winthrop Research Institute. It's DL-threo-2-dichloroacetamido-1-(4-methylsulfonylphenyl)-1,3-propanediol, shows significant activity against several species of fungi.

• Another pharmaceutical hopeful is dextromethorphan hydrobromide, a cough-relieving agent synthesized in the laboratories of Hoffmann-La Roche, Inc. (Nutley, N.J.). In clinical tests, the substance was found to be twice as effective as codeine in reducing the severity of cough spasms.

Tooth Check: A U.S. Public Service team is going to examine 150 Colorado Springs children next week to try to solve some water fluoridation mysteries. Colorado Springs is the city where many of the original findings on the value of fluorine in preventing caries were made. Some of the questions Health Service workers will try to answer: What is the relationship between breast-feeding and caries in young children? Why, despite the fact that Colorado Springs' water contains a relatively large amount of fluorides, do some lifetime residents still require fillings?

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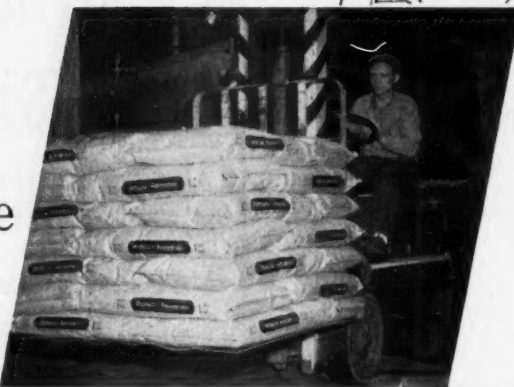
Man-hours
for unloading
cut 67%

UNITIZING is Monsanto's method for speeding the handling of phthalic anhydride. It consists of stacking eighty-pound bags on expendable paperboard bases. Bags are glued together to form one-ton units. Each ton unit can be raised by fork truck and quickly moved from boxcar to unloading dock.


For further information call your nearest Monsanto sales office or write **MONSANTO CHEMICAL COMPANY**, Organic Chemicals Division, 800 N. Twelfth Blvd., St. Louis 1, Mo.




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	First Registrant Acquires Exclusive Rights	First User Entitled to Registration	Opposition to Reg- istration Must Be Filed Within *	Registration Endan- gered By Failure to Use Mark for Period of	Duration of Registra- tion
Argentina	Immediately		35 days		10 yrs.
Bolivia	After 1½ yrs. *		50 days		10 yrs.
Brazil	After 5 yrs. *		60 days	2 yrs.	10 yrs.
Canada		X (Must be protected by registration)	Period set by official notice	Period not specified	15 yrs.
Chile	...	...	33 days	...	10 yrs.
Colombia		(Prompt registration essential)	40 days	1 yr. and 1 day	Original 10 yrs. Renewal 5 yrs.
Cuba	Immediately		2 mos.	3 yrs.	15 yrs. or Limited *
Mexico	After 3 yrs. *		Period set by official notice	5 yrs.	10 yrs.
Paraguay	Immediately		30 days	1 yr. and 1 day	10 yrs.
Peru	Immediately		40 days	1 yr. and 1 day	10 yrs.
Uruguay	After 2 yrs. *		30 days	...	10 yrs.
Venezuela	Immediately		30 days	2 yrs.	15 yrs.
Austria		X	...	...	10 yrs.
Belgium		X	...	...	Unlimited
Denmark	After 5 yrs. *		...	...	10 yrs. or Limited *
France		X	...	...	15 yrs.
Germany	Immediately		Period set by official notice	On discontinuance of business	Original 7 yrs. Renewal 14 yrs.
Great Britain		X	1 mos.	5 yrs.	Original 7 yrs. Renewal 14 yrs.
Italy	After 5 yrs. *		...	3 yrs.	20 yrs.
Netherlands		X	...	3 yrs.	20 yrs.
Norway	After 3 yrs. *		...	...	10 yrs.
Portugal	After 6 mos.		90 days	5 yrs.	10 yrs.
Spain	After 3 yrs. *		2 mos.	5 yrs.	20 yrs. but pay tax every 5 yrs.
Sweden	Immediately		Period set by official notice	...	10 yrs.
Switzerland		X	...	3 yrs.	20 yrs.

* Following filing of application * Courts are inclined to regard First Registrant as owner. * Times run from first advertisement of application of registrant. * Means period limited to duration granted by home registration

SOURCES: White & Ravenscroft—"Trade-Marks Throughout the World", Callman—"Unfair Competition and Trade-Marks", Vol. 4, pp 2198-2202; Dun & Bradstreet's "International Markets", 1952.

Trademark Troubles Abroad

Although chemical companies are loth to discuss it, it's no secret that trademark infringements in foreign countries are causing plenty of headaches.

Reasons for the violations: foreign registration laws and leniency of foreign governments toward counterfeiters.

Ordinarily when you buy an Eveready battery you can be sure it's been made by National Carbon division of Union Carbide and Carbon. But recently a shipment of a million "Eveready" batteries arrived in Indonesia—and not one came from National Carbon.

The problems that normally confront trademark divisions of chemicals companies doing business abroad aren't usually that formidable. Some-

times troubles can be quelled by merely warning would-be violators. Nonetheless, there are enough trademark infringements these days to give company lawyers daily headaches.

Most violations stem from two factors: the attitude foreign governments take on such matters, and the nature of their trademark registration laws.

Here it's the initial user of a mark that's allowed to register it, and hence become its owner. But often—too often

—abroad an individual or a firm can get a trademark assigned to him simply because he is the first to apply for registration.

The next step is up to the concern that is the real owner of the trademark.

It must do everything possible to have the registration canceled. The result: American chemical companies selling overseas are involved almost all the time in some foreign court over trademark infringements.

Chief Offenders: The countries giving the most registration troubles today are in South America. Lawyers say they have their hardest time in Argentina, Chile, and Brazil. But generally companies—when asked about

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violations—tend to be vague, naming only the continent.

Thus, American Cyanamid Co. will explain that, while negotiating not long ago with a South American firm to have it act as a purchaser and reseller, the firm "got the trademark application in before we, hoping to use it as a lever over our heads to swing the deal."

Atlas Powder Co. reports it is now "engaged in one of the European countries regarding two of our more prominent trademarks. Suit has been filed—seeking trademark cancellation and also relief for unfair trade competition."

Some will point a finger, though. Chesebrough Manufacturing Co., maker of Vaseline products, admits that for the past several years it has encountered trademark violations in India. Involved is its hair pomade, Blue Seal. Vick Chemical Co. says it's having difficulty in Indochina and India—where counterfeiters are busy putting Vick labels on inhalers and cough drops.

A large manufacturer and distributor of disinfectants and toilet preparations has gone to court in foreign countries over these violations:

- Trademark registration by firms and individuals not connected with the American company.
- Company's trademarks on different kinds of products. (In legal terms, this is called "diluting.")
- Choice of too-similar trademarks.
- Refilling company's bottles.

The director of the company's trademark division says trademarks most likely to be pirated are "good marks"—ones pleasant to both the eye and ear.

One way to avoid infringements, of course, would be to register one's trademarks in all countries. The drawback to this is the high cost. So what many firms do is to register in "main countries," then fight false registrations that bob up elsewhere.

Defrauding Themselves: One company's trademark counsel feels that trademark infringements would be greatly diminished if foreign governments took a sterner stand on the matter. "Too often," he says, "the various governments look upon the sale of counterfeit merchandise as merely causing damage to some foreign concern."

"They overlook that a far greater damage is caused to their own citizens through the fraud practiced on them . . . The American manufacturer's lost profit in not making a sale of a genuine article would be only a few cents, excluding damage to the goodwill of

his business, but the loss to the local citizen in any country who purchased a counterfeit product that quickly became worthless would be the entire purchase price.

"I believe that if this greater loss to their own citizens is brought to the attention of the various governments, some action may be taken by them to protect their own citizens against such frauds."

It's hard to say what can be done or what will be done. There is talk that the U.S. Commerce Dept. will soon establish an international agency to check the growing problem.

The United States Trade Mark Assn., which includes among its members most large chemical companies, favors such a move. Last year it sent out questionnaires to its members to determine the extent of violations overseas.

The replies indicated that the problem was causing considerable worry, that even some exporters in the United States were counterfeiting American products and trademarks and shipping them abroad.

Companies Won't Kick: But it's not likely the government will set up any international agency or will urge foreign governments to crack down unless American firms become more outspoken on the subject. The U.S. Trade Mark Assn. says that Monsanto, for instance, is one of the chemical companies bothered by trademark trouble in foreign markets. Yet Monsanto denies this is so.

Likewise, Du Pont claims it has no complaints. But a reliable source reports that Du Pont is encountering a lot of infringements abroad.

As for the government, it feels U.S. embassies and consulates are cooperating to the hilt with American firms having infringement difficulties. Foreign service members often accompany police parties raiding counterfeiting establishments. They also keep their eyes peeled for registration of generic names and names of American cities.

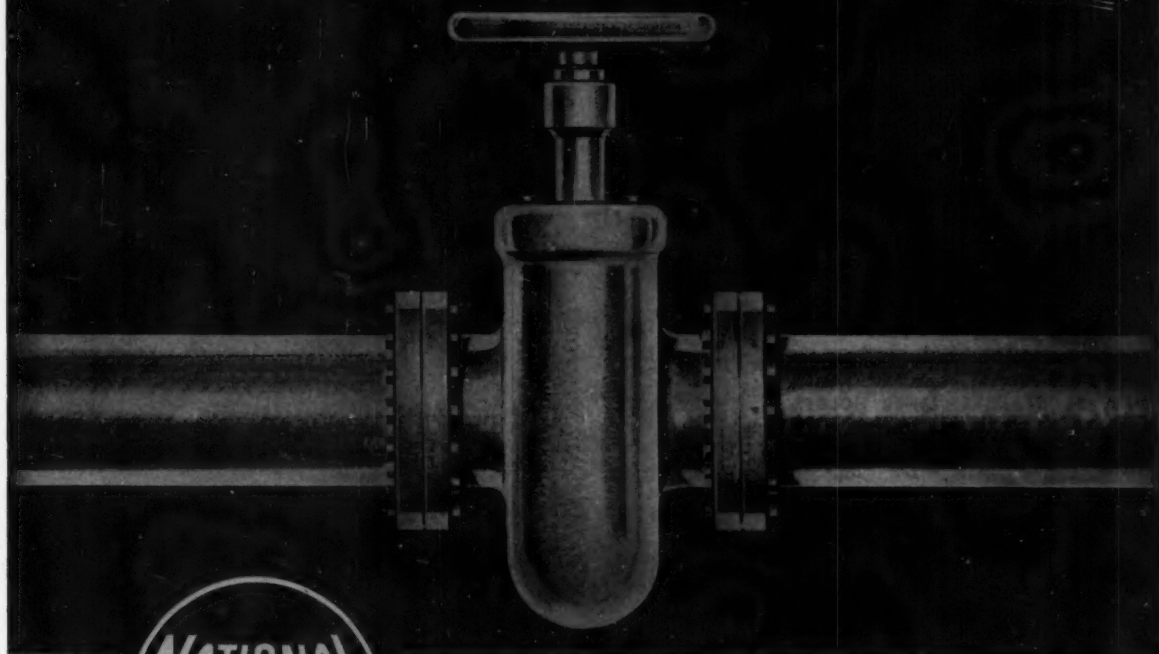
In other words, they cooperate "within reason," as one chemical executive puts it. To go any further might mean our government's being charged with "interference"—no slight charge these days.

And complicating things more is this truth: the final arbiters on infringements are not foreign governments but foreign courts. So while it might not be wise to pressure foreign governments, it would be even less wise to pressure their courts.

The situation could be better, but a good guess is that it will get worse.

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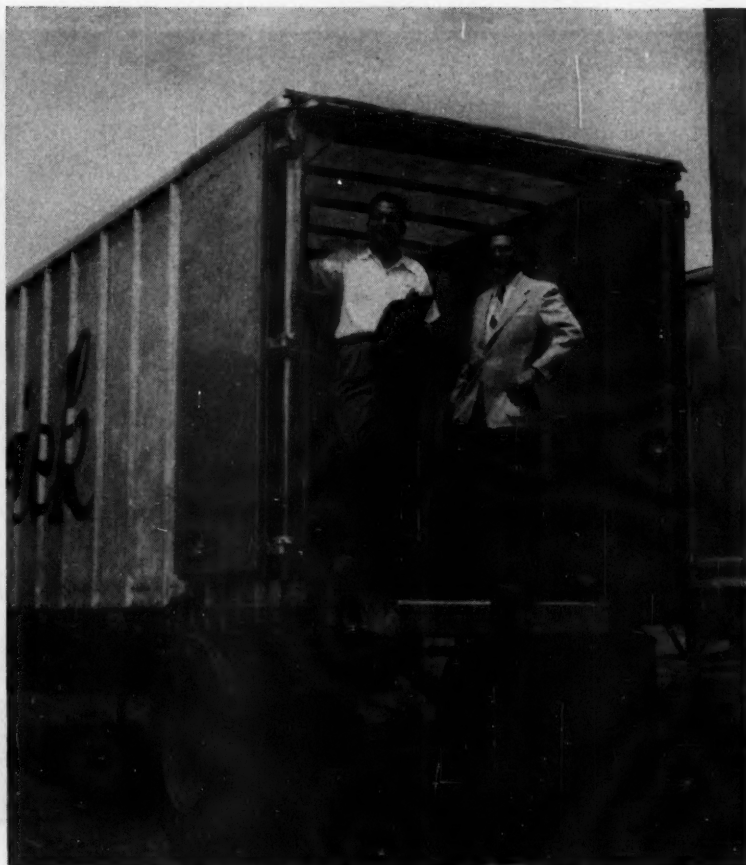
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Chemicals Won't Corrode

In this day of rising freight rates and sharpening shipping competition, it's a pretty sure bet that innovations by two trailer makers—one on the West Coast, the other on the East—will be followed with growing interest.

Starting from entirely different conditions, they are now offering trailer bodies that depart from today's stand-

ard construction. Principal difference is their use of reinforced plastic.

At Antioch, Calif., Seaboard Plastic Development Co., recently organized off-shoot of Seaboard Transportation Co., is now making ready to manufacture plastic truck and trailer bodies.

This is a new step for Seaboard. A few months ago (CW, July 11) it



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 (Dicapryl Phthalate)
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Most women's rainwear used to be as drab and soggy-looking as the weather it was made for. But nowadays, fashion-conscious women welcome cloudbursts with bursts of color—thanks to the development of practical synthetic dyes for plastic raincoats. And Barrett Phthalic Anhydride plays a major role as a starting material for making many of these dyes.

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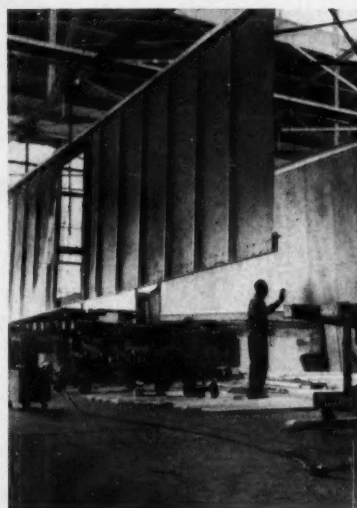
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ASSEMBLY LINE: A unit every 30 minutes.

was road-testing three experimental glass fiber-reinforced polyester truck bodies. At that time, Seaboard, contract haulers for Fibreboard Products, was testing them as part of its own fleet modernization program. Now, enthusiastic about their potentialities, Seaboard will turn out plastic bodies for others.

Strick Co. (Philadelphia), on the other hand, arrived at its interest in reinforced plastics by a different route. Already a major truck trailer manufacturer (the country's third largest, according to Strick), it claims the use of the new material is "the first important forward step since frameless aluminum trailers, introduced by the Strick Co. over a decade ago."

Although Seaboard and Strick differ in their approaches, both in the fabricating methods and the ultimate market for plastic in trailers, they agree on several points:

- Translucence of the plastic (*see cut*) lets light into the trailer. Both companies consider this a prime advantage; workers inside the trailer can read labels, thus speed loading and unloading.

- Because the plastic is corrosion-resistant as well as strong and light, it can be used to advantage wherever corrosive chemicals are to be hauled.

- Refrigerated trailers should be a "natural" for plastic.

Different Approaches: Although both makers believe that plastic has a definite place in future trailers, Strick's attitude is perhaps the more cautious. Much of its fabrication is simply a modification of its regular aluminum body line.

For example, three out of four of

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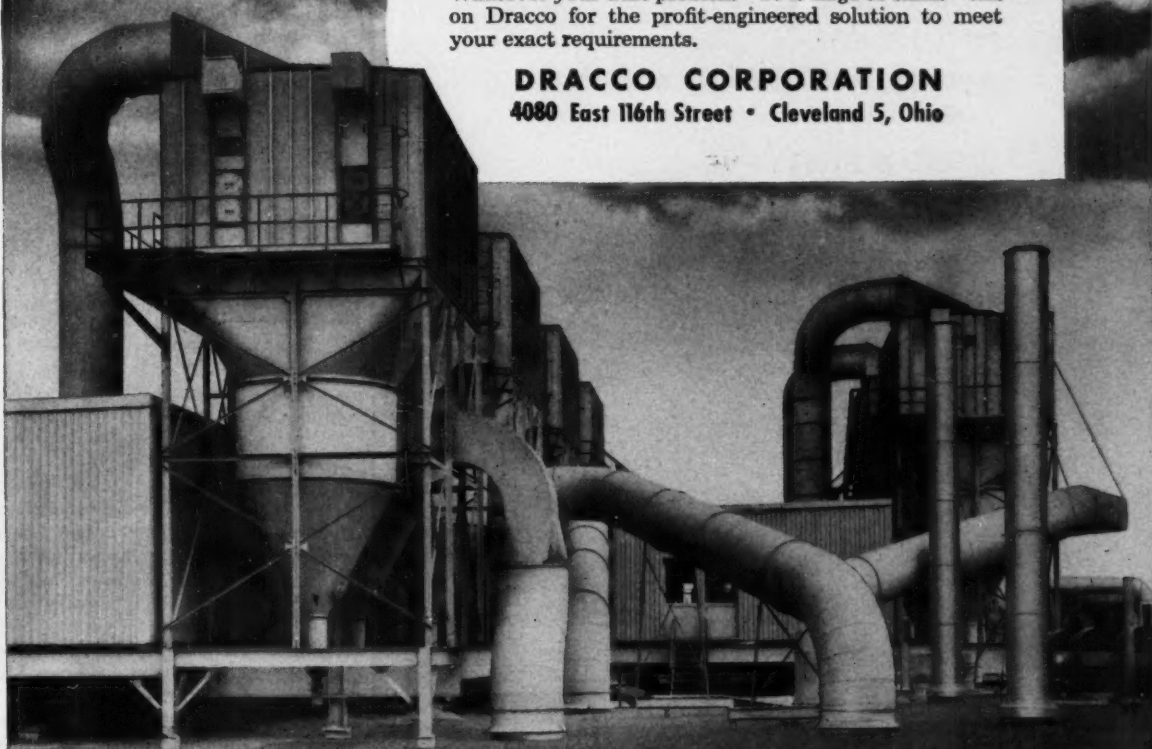
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the trailers rolling off the Strick production line, which turns out a completed unit in 30 minutes, have plastic only in the skylight roofs. A smaller number have reinforced plastic sides, interior liners and doors.

Seaboard, on the other hand, with no previous commitment in trailer design, is going all out in its use of plastic. Its bodies, made in four sections—sides, roof and front—are completely plastic, the reinforcing ribs even being made of the same material.

Two Costs: Probably because the use of plastic in bodies is so recent, Strick and Seaboard hold some differences of opinion concerning the cost (and ultimate selling price) of their products.

Pressed for a comparative figure, Strick's Semond Levitt "guesstimated" that a plastic-modified job would run from 5 to 10% higher in cost than the standard aluminum item.

At Seaboard, however, Pres. Walter Junge promises, "The use of polyester resin and glass fiber makes possible the manufacture of any type of trailer body more economical to produce and maintain than others."

Two Methods: Right now manufacturing costs are complicated by the difference in construction methods used by Seaboard and Strick.

Seaboard, employing the "hand-lay-up" route, forms as much as a 24x8-ft. section in one piece. By this method, the fiber glass cloth, cut to rigid specifications, is laid in a mold and saturated with the resin. Then preformed plastic ribs are pressed into the lay-up, and the complete section is finally cured. To date, the largest plastic trailer bodies built by Seaboard are 24x8x8 ft.

Strick, on the other hand, following more closely the mass-production methods it uses for metal bodies, forms side panels (4x8 ft.), roofs and interior liners in a large press. In assembling the trailers, Strick rivets the side panels to exterior aluminum posts, which together with a top and bottom aluminum rail, form the load-carrying members of the trailer.

Also a Market: Aside from advantages that shippers may receive from hauling in plastic bodies, the Strick and Seaboard developments hold promise of a considerable outlet for the resin and glass fiber makers.

Up to the moment, at least, the resin maker most actively promoting plastic bodies is probably Naugatuck Chemical Div., U.S. Rubber Co. As producer of the polyester resin (Vibron) used by both Seaboard and Strick, Naugatuck has a special interest in the developments.

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positive*
safety



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True
reciprocating
bearing, 2 1/2
to 1 ratio.

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bellows of
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coating (for
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and corrosion)

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between body
and bellows for
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guide
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does not affect
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disc optically
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bubble
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Corrosion and varying back pressure—the two dangerous enemies of positive safety-relief valve operation—are stopped cold by the ingenious construction of Farris valves. Critical working parts are isolated from the lading fluid so that they can't stick, plug or corrode and the special bellows construction nullifies the effect of back-pressure surge. You get positive protection, under all operating conditions. Manufacturing economies offer realistic pricing—and the design permits the use of much smaller discharge piping, at an important saving. So for safety and economy, specify FarriSeal or BalanSeal safety-relief valves. You're never stuck, because they never stick!

Technical manual, 51B, a treatment on Back Pressure Piping and Surge characteristics and 76-page catalog is yours for the asking.

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• FARRIS HYDROSEAL CORPORATION • FARRIS PICKERING CORPORATION



Main Line

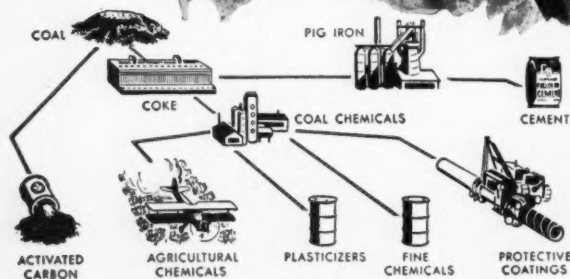
to New Chemical Wonderlands

Twenty-four hours a day, these giant steel pipes carry a rich cargo of chemical-laden gases from coke ovens to chemical plants of the Pittsburgh Coke & Chemical Company. Final destination? Your new crease-proof summer suit, the drug that takes the sneeze out of your hay fever, the herbicide that kills your weeds but not your grass . . . and perhaps 100,000 other coal chemical-made products that are, or soon will be, an important part of your life.

But there's an important "line" going the *other* way from our coke ovens, too. It carries coke to our blast furnaces for pig iron production. And slag from these furnaces is made into cement for highways and homes.

Diversified production? Yes, but completely integrated, too. For the operations of Pittsburgh's ten divisions are welded into a single, *basic* production pattern. The manufacturing efficiencies and coal-to-product quality control that result have made the Pittsburgh Coke & Chemical Company trademark a hallmark of dependability.

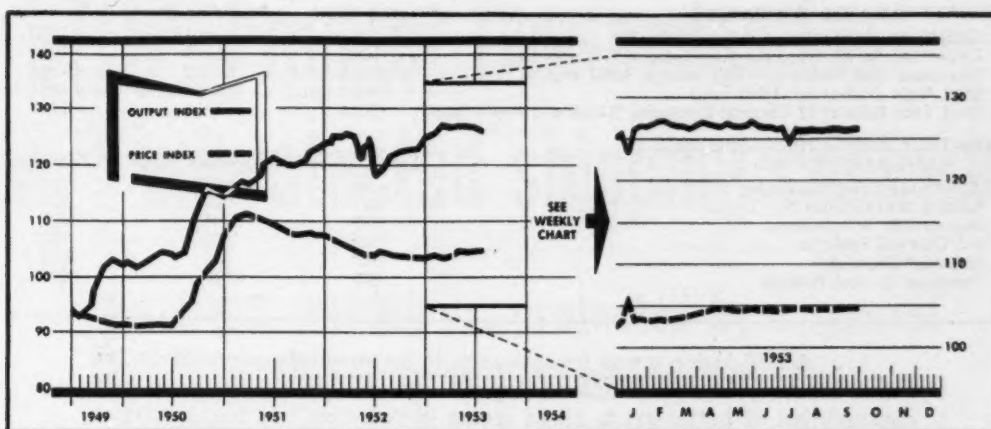
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PITTSBURGH
COKE & CHEMICAL CO.

Green Building - Pittsburgh 19, Pa.

MARKETS



CW Index of Chemical Output—Basis: Total Man Hours Worked in Selected Chemical Industries
CW Price Index—Basis: Weekly Prices of Sixteen Selected Chemicals

MARKET LETTER

Chemical markets continue to display a heartening, near-normal tone. But here and there some observers are noting a few signs that may indicate the expected fourth-quarter dip in business activity is not too far off.

For instance, spot chlorine customers are finding supplies more readily available—an indication that contract withdrawals have eased somewhat.

It's doubtful, though, whether or not the slackening—due in part to the pesticide season's windup—will exert any downward pressure on prices. Reason: Over-all chlorine demand is still quite good.

The sulfur situation, too, is more nearly in balance. One producer's summation: most customers are getting all they need—most of the time. There's been a substantial dipping into the industry's stockpiles, though, to meet new commitments. One estimate pegs the siphoning to date at about 200-300,000 tons, pulling stocks at the mines down to a near-six months supply.

Overseas demand for American sulfur may have let up a little in some quarters, but not enough to even stir up speculation on any price-tag altering. No. 1 U.S. producer Texas Gulf's export price remains at \$28/ton (same as its domestic price); Freeport Sulfur's schedule is still \$2.50/ton higher—at \$30.50, f.o.b., port.

Out of the realm of speculation and slated to help undercut cotton's prime advantage over rayon—washability—is Rayonier's new sulfite cellulose. Tabbed Rayocord-X, the just-revealed material, when used with new spinning techniques, is said to produce a rayon yarn for textiles that is shrink-resistant, washable, fully as serviceable as cotton and "other types of synthetic" fabrics.

Tire cord producers, too, are eyeing the fiber's high fatigue life, high strength, toughness. Backing Rayocord-X's market potential is Rayonier's now a-building (its fifth) \$25-million chemical cellulose plant at Jesup, Ga.

MARKET LETTER

WEEKLY BUSINESS INDICATORS

	Latest Week	Preceding Week	Year Ago
CHEMICAL WEEK Output Index (1947=100)	126.3	126.3	122.6
CHEMICAL WEEK Wholesale Price Index (1947=100)	104.9	104.9	102.4
Bituminous Coal Production (daily average, 1,000 tons)	1,611.0	1,623.0	1,929.0
Steel Ingot Production (1,000 tons)	2,139.0 (est.)	2,144.0 (act.)	2,195.0
Stock Price Index of 13 Chemical Companies (Standard & Poor's Corp.)	243.6	240.8	241.4

MONTHLY INDICATORS—Production (Index 1947-49=100)

	Latest Week	Preceding Week	Year Ago
All Manufacturing and Mining	236	232	214
Durable Manufactures	311	311	271
Non-durable Manufactures	197	191	192
All Chemical Products	327	326	303
Industrial Chemicals	647	646	569
Petroleum & Coal Products	295	294	279

A still-under-wraps process soon to be unveiled—probably at the Paint Industry Show (Atlantic City) the end of this month—may hike consumption of better-grade alkyd resins in “odorless” oil-based interior paints. Solvents and systems currently employed by paint producers are frequently incompatible with the better resins, thus limiting makers to using inferior grades.

A new Shell Oil “pat. pend.” paint-making technique, while not changing solvents, will broaden the alkyd resin choice. Added claims for the formula: allows better hold-out (nonpenetration), greater shelf stability of the finished product.

A good bet: Shell will license the method to the field on a royalty-free basis.

Odds are still long, though, on whether effectiveness of recent re-establishment of port price quotes by U.S. ammonium sulfate producers has done much to buck foreign competition (CW Market Letter, Aug. 29). One major synthetic maker, however, going along with the gamble, reportedly cut his port price last week to the going \$47/ton (f.o.b.) level.

Other—and closer to home—factors contributing to the slowing nitrogen-source market include major mixers' taking less than normal amounts for this time of year. Reason: expected farm demand for mixed goods—especially in the Midwest—has not materialized as yet.

Unexpected, to say the least, are this week's lower glycerine tags. One of the larger soapers (Procter & Gamble) just emulated synthetic maker Shell Chemical's recent (CW Market Letter, Aug. 22) surprise price cut by reducing Shell's new, low 40¢/lb. schedule by another 6¢.

But, as at that time, the price-slasher's advantage is short-lived. In a rapid retaliatory move Shell is also cutting its price down to 34¢/lb., effective immediately.

Polypropylene glycol customers, too, are benefiting from some competitive price altering. Union Carbide—following Dow's lead earlier this month—set these Eastern prices late last week: tank cars (down 1½¢/lb.) to 25¢; c.l. in drums, 26¼¢; l.c.l., 27¾¢. In the West it's a penny/lb. higher.

SELECTED CHEMICAL MARKET PRICE CHANGES—Week Ending September 28, 1953

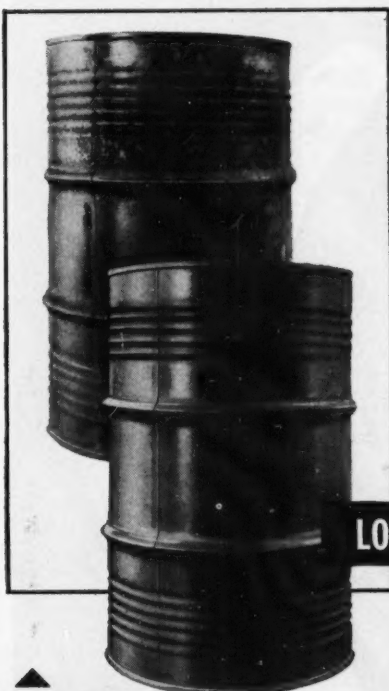
DOWN

	Change	New Price		Change	New Price
Glycerine, high gravity, tanks, dlv.	\$.06	\$.34	Polypropylene glycol, East, drms, c.l.	\$.0125	\$.2675
Glycerine, synthetic, tanks dlv.	.06	.34	Quicksilver, flask (76 lbs. net)	3.00	186.00
Glycerine, USP, CP, tanks, dlv.	.075	.33	Tallow, fancy, bleachable, tanks, dlv.	.00125	.05

All prices per pound unless quantity is stated.

Product Contamination **from unprotected shipping containers!**

**Use U-S-S DRUMS . . . protected by a special
new cleaning and finishing process**



▲
The drum at left is an ordinary painted drum. After exposure to weather for one year it is badly rusted; in fact rust was very apparent after only *one week*. The drum at right is a U-S-S Drum. It, too, has been exposed to weather for a year . . . yet there is absolutely no rust on this drum!

THROUGH a recently developed method of cleaning and treating drums, U-S-S Products has solved the problem of product contamination due to scale, dirt, grease and rust which plagues users of shipping containers. This special process not only cleans the drum of contaminating materials, but also retards rust and corrosion. In addition, the bond formed between the coated steel surface and the paint makes it possible for us to give you a longer-lasting, better-appearing decorated container.

Key to the U-S-S Products process is in the fact that a rust-inhibiting, finish-protecting coat is applied *after* the drum parts have been cleaned, completely descaled and formed—just prior to final assembly of component parts. As a result, you get drums that can more effectively withstand severe handling and weathering. Your products remain pure and uncontaminated by scale and other residues. This is better for you . . . and better for your customers.

LOOK AT THE DIFFERENCE PROTECTION MAKES!



The handkerchief test proves the superiority of a U-S-S Drum. When the interior of an ordinary drum is wiped with a handkerchief, the handkerchief will pick up grease, dirt, scale and rust, as shown in photo at left. But the photo at right shows the cleanliness of the U-S-S Drum . . . the handkerchief remains absolutely clean!

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UNITED STATES STEEL

Dynamite: Time-Saver

PROBLEM...

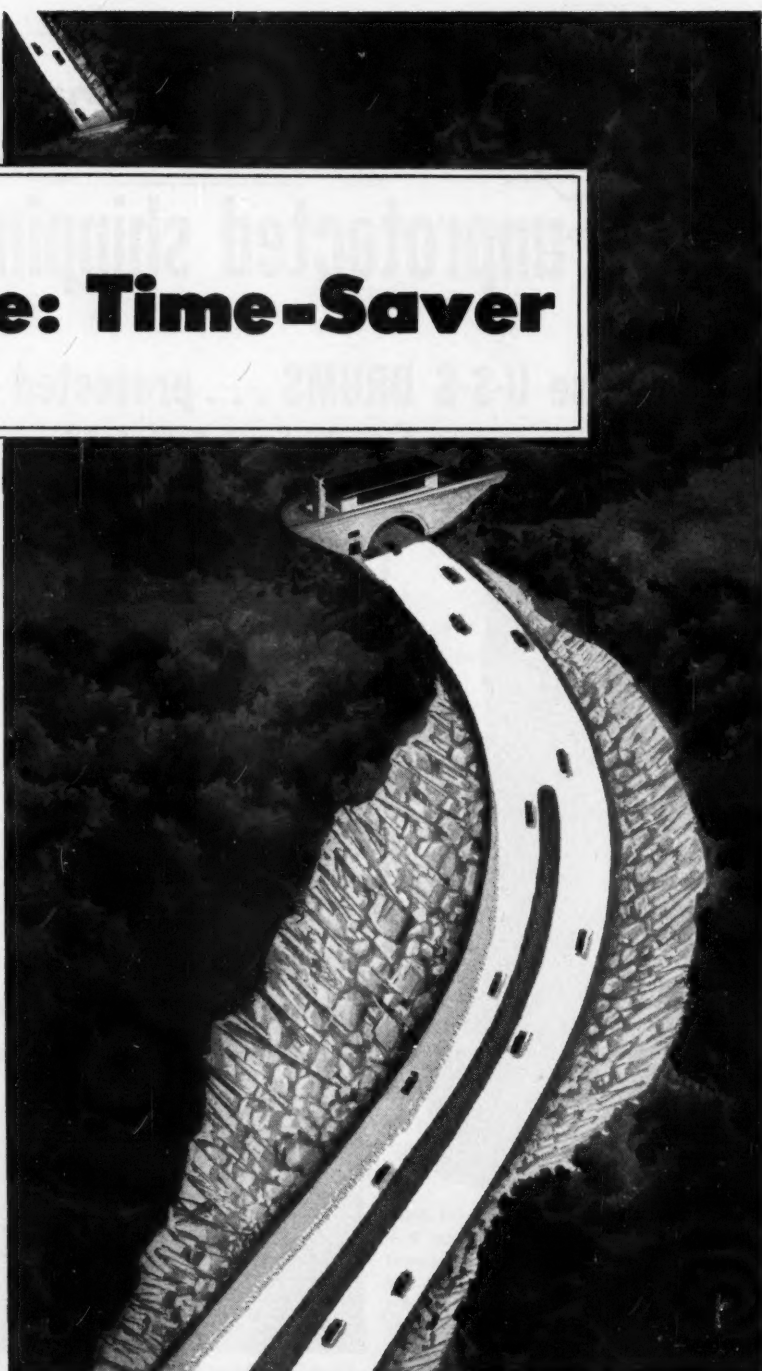
...to help keep America's millions of motor vehicles on the move.

SOLUTION...

... express routes that by-pass congested areas—toll roads, for example. Two thousand miles are expected to be in operation by 1956. Many miles of these short-cuts, through hills and mountains, would be impossible but for the mighty rock and earth moving power of dynamite. With Hercules® explosives and technical service facilities, road contractors are assured of maximum blasting efficiency and economy.

RESULT...

... faster, direct-route highways for trucks and passenger cars. Other engineering projects that benefit from the use of Hercules explosives include coal and metal mines, quarries, dams, petroleum production, and pipe lines.



Hercules' business is solving problems by chemistry for industry...



... detergents, rubber, plastics, paint, varnish, lacquer, textiles paper, insecticides, adhesives, soaps, to name a few, use Hercules® synthetic resins, cellulose products, chemical cotton, terpene chemicals, rosin and rosin derivatives, chlorinated products and other chemical processing materials. Hercules® explosives serve mining, quarrying, construction, seismograph projects everywhere.

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G63-10

CMRA Meet Tabs Metallic Outlets

Titanium output is zooming . . .

	U.S. Production (tons)
1951	550
1952	1,100
1953	3,400
1954 (est.)	7,000
1956 (est.)	18,600
1960-70 (est.)	100,000-200,000

and it takes chemicals to make it:

To produce a ton of titanium metal, the following materials are required:

2.5 tons rutile (TiO_2)
0.5 tons coke
5.0 tons chlorine
1.3 tons magnesium

(Some of the magnesium chloride produced in the process is recycled)

Zinc, copper gobble chemicals, too...

Estimated Chemical Consumption in One Year
(thousand lbs.)

By an average-size (approx. 50-80,000 ton/year capacity) zinc plant (electrolytic)	By an average-size (approx. 200,000 ton/year capacity) copper refinery (electrolytic)
Caustic soda 9.0	Acids (principally sulfuric) 4.0
Arsenic acid 25.0	Sodium sulfate 840.0
Cresylic acid 13.5	Sodium sulfite 17.0
Sodium silicate 390.0	Sodium bisulfite 10.0
Gum arabic-amber 30.0	Tankhouse glue 41.0
Bakelite resin 12.0	Goulac 137.0
Ammonium chloride 75.0	Salt 1,500.0
Bone glue 54.0	Water softeners 15.0
Copper sulfate 145.0	Caustic soda 85.0
Antimony oxide 3.0	Sodium nitrate 60.0
Total value \$60-70,000	Soda ash 35.0
	Total value \$100-110,000

As does metal phosphatizing:

Phosphate Paint Bonding Distribution

Current market (excluding ordnance) = \$6 million

Automotive industry	
a. Automobiles	28.8%
b. Trucks and buses	23.8
Appliances	
a. Refrigerators, washers, freezers, etc.	13.7
b. Kitchen cabinets, water heaters, etc.	1.9
Containers	8.1
Metal furniture	6.2
Farm machinery	5.0
All others	12.5

Keynote of particular interest to chemical marketers was struck by International Nickel's O. B. J. Frazer at the recent CMRA meeting at Pocono Manor Inn. In his kick-off talk—appropriately titled "Perspective"—Frazer posed two rhetorical questions pointing up the rapport between the chemical and metallurgical industries, setting the stage for other experts' appositions on "Patterns and Trends of Chemicals Consumed and Produced by the Metal Industries."

The queries:

- Where would the chemical industry be today if it were not for the other industries that provide it with raw materials, power, and operating equipment, the industries that purchase its products and the transportation industries that carry materials into and out of its plants?

- Where would those other industries be if it were not for products of the chemical industry?

Typical of this interdependence is the estimated zooming growth of titanium (*see tables*). Here, in less than 10 years, will be a whopping 1 billion lbs./year market for chlorine alone, and for some 500 million lbs. of rutile, sizable quantities of magnesium.

Economics and Chemicals: With few remaining highest-grade ore bodies left in the world, chemicals have stepped into the breach to maintain needed mineral output. Chemicals have made it possible to develop methods of concentrating the valuable mineral content of low-grade ore to make the minerals suitable for economic smelting.

In his discussion of mineral beneficiation (dressing), R. W. Forsythe (Dow Chemical) turned the spotlight on froth flotation (*see tables*). Termed the most practical and economical process used in modern milling practice on most ores, the method is a veritable maw for chemicals. Modifying reagents include soda ash, lime, sulfuric, caustic for pH modification; chlorine, sulfur dioxide, copper sulfate, zinc sulfate, sodium cyanide.

Flotation collectors, said Forsythe, can be classed as either anionic or cationic; the former are used for metal flotation in general. The world uses approximately 30 million lbs./year; the larger market is for anionic collectors like the xanthates, dithiophosphates, thiocarbamilide, and dixanthogens.

Collectors used widely for non-metallic flotation are fatty acids and alkylamines.

The frother situation, said Forsythe,

is somewhat simpler since the flotation industry cut its teeth on such old-line frothers as pine oil and cresylic acid. The amylhexyl and heptyl alcohols entered the picture at a later date, have done well.

Coat Before Painting: Indicative of new developments that are upping consumption of chemicals by the metal fabricating industry is Pennsalt's Foscoat process. That company's manager of sales research department, Edwin Ott, sliced up for interested listeners the current \$6-million paint bonding pie (see tables).

But, elaborated Ott, phosphates are by no means the principal chemi-

cal products used in the nation's metal fabricating industry. Pickling, cleaning, degreasing consume huge amounts of sulfuric, liquid caustic, muriatic, nitric acid, soda ash, wetting agents, solvents.

Nonferrous Forecasting: The non-ferrous smelting and refining industry was probed and analyzed by McGraw-Hill's *Engineering & Mining Journal* editor Alvin Knoerr as a current big—and future bigger—market for a raft of chemicals.

While not fingering any particular company, Knoerr neatly illustrated how lead, zinc and copper producers stack up as chemical customers. Us-

ing as a basis an average-size—though theoretical—lead smelter, zinc plant and copper refinery, he showed, in that order, each, respectively, pays out annually about \$35,000, \$60-70,000 and \$100-110,000 at the chemical market-place counter.

Always ear-perking to chemical buyers and sellers is the phrase, "trends that may affect consumption and production." Especially attention-garnering was Knoerr's probe of the comparatively new chemical extraction methods that may, for certain metals, bypass conventional milling and smelting processes. It is now feasible to leach certain rich ores and concentrates and precipitate cobalt, copper and nickel in virtually pure powder form. At the moment anhydrous ammonia leads the field as the reagent required, but major mining companies are also keeping an eye on some acid processes.

Mining and preparation of less-common metals may soon skyrocket demands for chemical products, too. Uranium, for example. While A-bomb aspects are of necessity shrouded in secrecy, it's no news that more than 500 mining operations make up a \$50-million uranium-vanadium industry on the Colorado Plateau alone.

Chemicals and reagents needed to process these ores include sulfuric (about 50 million lbs./year), salt, caustic soda, calcium hydroxide, soda ash, hydrochloric and nitric acids, sodium sulfate and others.

A new development to watch, hinted Knoerr, is the possibility of uranium from low-grade shales in Eastern U.S. If research in this field proves successful, he says, acid and reagent take will be "sensational."

Titanium, lithium, rare earths, a Fluosolids process of roasting sulfide ores are all due to make an even greater impact on chemical demands.

More Meeting Highlights: Other speakers at the chemical and metal industries' panel discussion and their subjects include: Lawrence Latour (Harshaw Chemical), "The Use of Metals in Catalytic Processes"; J. W. W. Sullivan (American Iron and Steel Institute), "Changing Patterns of Raw Materials Consumption in Ferrous Refining"; Edmund Bauer (Monsanto Chemical), "The Foundry as a Market for the Chemical Industry"; S. J. Rosch (Anaconda Wire and Cable), "Chemicals in the Wire and Cable Industry".

Texture of the speakers' subjects points up how closely woven are the pursuits of the two industries, how mutually profitable can be their futures.

Getting out the ore takes tons of flotation modifying agents . . .

Current Annual Consumption (est.) in No. America
(million lbs.)

Agent	lbs./year
Lime	508.0
Soda ash	74.0
Copper sulfate	39.0
Zinc sulfate	29.0
Sodium cyanide	9.2

And flotation collectors* . . .

Present World Market
(million lbs.)

Country or Continent	lbs./year	% of total
United States	9.8	32.8
Canada	5.0	16.7
Mexico	1.5	5.0
Central South America and West Indies	4.4	14.7
Europe and Asia	4.1	13.7
Africa	4.1	13.7
Australia	1.0	3.4
World Total	29.9	

* Principally anionic.

And flotation frothers.

Current Consumption*
(million lbs.)

Country or Area	lbs./year	% of total
United States	14.3	57.6
South America	3.1	12.5
Canada	2.9	11.7
Europe and Asia	1.7	6.9
Africa	1.5	6.1
Mexico	1.3	5.2
World total	24.8	

* Metallic flotation only; on the basis of pine oil, cresylic acid and alcohol frothers.

● Pfizer Fumaric Acid is easy to handle because it is free-flowing and non-hygroscopic. It is non-volatile, odorless, non-corroding and non-toxic—actually lower in toxicity than some food acids. These important characteristics are making Pfizer Fumaric Acid the preferred acid in the coatings industry.

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In every field of human endeavor it pays to "use one's head." And you'll find nothing so rewarding, where thickening and suspension with metallic soaps is indicated, as remembering to specify "Metasap".

for GREASE—Metasap Stearates provide perfect soaps for the firmer, less granular greases in demand today.

Examples: *Metasap Aluminum Stearate GM* for the preparation of soft greases; *Metasap 537* designed to produce firmer greases with no bleeding; *Metasap 598-A-1* and *Metasap 598* for making harder greases.

for PAINT—Metasap Stearates and Palmitates—with a wide range of gelling properties—provide ideal pigment suspension in all types of paint. No hard-caking in storage.

Examples: *Metasap Aluminum Stearate R* is an excellent suspension agent, usable in a wide variety of paint formulas. *Metasap Aluminum Palmitate* and *Metasap 597* are good thickening and suspension agents for paints, especially adaptable where range of heat is limited. *Metasap 546*, a zinc stearate, is recommended for sanding sealers.

for PLASTIGELS—In the new and interesting field of vinyl plastisols, Magnesium and other Stearates have proved effective gelling agents for the preparation of plastigels.

for OILS—Metasap 540 produces tackiness and stringiness in the palest oils without changing clarity of color of the compounding oil. It proves an outstanding aid in the manufacture of waxes.

At Metasap, we not only produce tailor-made specialities for many industries, but a complete line of stearates and palmitates of aluminum, lead, zinc, calcium, and magnesium. Our representatives in 44 States are ready to serve you whenever you telephone, wire, or write—and our Technical Service Division is prepared to make recommendations, and work with you right in your own plant.

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*Reg. U. S. Pat. Off.



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of Calcium • Aluminum • Lead • Magnesium • Zinc

SPECIALTIES

SUCCESS OF A SURVEY DEMANDS:

A carefully devised questionnaire—

- that covers, simply, no more data than will best serve the industry
- that is followed, where necessary, by reminders sufficient to get prompt, large-volume reply

A confidential tabulation system for returns—

- operated by the group making the study, or
- operated by an outside accounting agency to insure secrecy

A cooperative industry—

- that provides data while it is still timely
- that realizes that the only accurate survey is a complete survey

Finding Where You Stand

How do you stack up against the rest of your industry?

Have you matched the gains—or losses—of competitive firms? Surveys are one way to tell.

Such studies can be conducted by your association, or run under contract by an outside firm. They can be just as valuable as you want to make them.

It isn't hard to determine how your sales stack up against those of previous years within your own company. But finding out how you've kept up with the others in your industry—if your over-all growth has matched others, if you're selling well in regions where others have grown, if you offer the fastest growing products—sometimes that can be a problem.

Specialties firms are often in a particularly difficult position. The products they deal in are those about which market data have long been kept a secret. Many firms are small, seem indifferent to learning how their industry fares.

On the other hand, many chemical industries have found that intra-industry cooperation, in the form of surveys of its members, can be exceedingly helpful. This week, to find the problems, drawbacks, costs and desirability of such studies, **CHEMICAL WEEK** checked with groups that have already established such surveys to aid the chemical process industries.

Specialties Probe: Of particular interest to specialties makers have been the recently inaugurated surveys made by two divisions of the Chemical Specialties Manufacturers Assn. The first, of aerosol products, inspired the second, on household insecticides.

In both cases, questionnaires prepared by the division concerned were sent out by the CSMA staff. Results of these queries (sent to all firms concerned, not just association mem-

bers) were returned to the independent accounting firm of Ernst and Ernst. There the returns were secretly tabulated, returns destroyed, and only totals passed on to the CSMA for distribution to members and other interested firms.

The surveys have been warmly greeted—but industry seems far more interested in survey results than in cooperating enough to make them as valuable as they might be. These studies are too new to show trend pictures yet, but time will remove this drawback, likely boost, too, the percentage of participating firms.

Since the CSMA staff prints and mails the survey forms, it is impossible to divorce survey cost from general office cost. Accounting charges, on a per diem basis, seldom exceed \$200 for a fairly complete yearly study of approximately 100 firms.

Publishers Help: For the benefits of many manufacturers, certain publications regularly run market surveys on a variety of products. McGraw-Hill's *Electrical Merchandising* conducts one such project. Concerned for the most part, with appliances, it gives detailed breakdown of regional sales, etc.

This survey is based on estimates from industry leaders, combined with information from government sources and from an association of appliance makers.

Of greater concern to specialties makers, perhaps, are the surveys of Topics Publishing Co. (New York).

This firm, in its *Drug Topics* and *Food Topics* magazines, checks on sales of hundreds of items—including many specialties—carried by the stores concerned. Figures are arrived at from industry estimates, and from actual sales figures from drug, food chains, plus interested independent retailers. This survey is in retail dollar sales, rather than unit figures.

Newspapers lend a hand too—the Consolidated Consumer Analysis, a digest of product use and consumer preference in 17 metropolitan markets, is prepared yearly from newspaper-conducted surveys.

Firms particularly interested in where their products stand in comparison with other brand-named products can enlist the help of commercial survey companies, such as A. C. Nielson Co. (Chicago). Its Food and Drug Index service, based on field auditor's checks of selected stores, can be tailored to an individual company's needs, and the service includes an analysis of the data received. Cost is rather steep—\$15,000-\$100,000/year, depending on the firm involved and the information wanted.

Shy in Replying: Apparently much of the difficulty in getting thorough industry cooperation lies in firms' questioning whether their replies will remain confidential. Most associations conducting surveys, though, go to extreme lengths to insure secrecy.

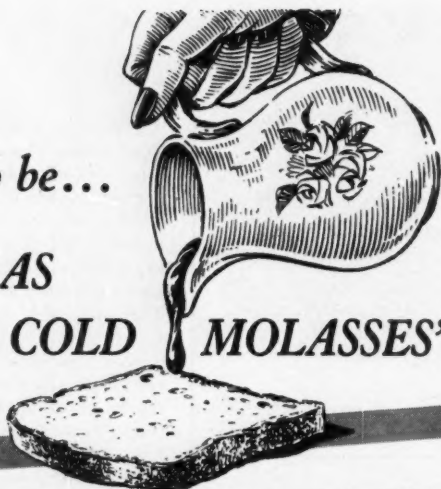
Noteworthy is the American Soap and Glycerine Producers Assn.'s care in handling information for its soap and detergent census. Questionnaires are sent to all known soap makers (not just to the association members); each firm has a code number, key to which is kept confidential. Replies, in envelopes marked only with the code number, are returned to the association, and passed on unopened to an outside accounting firm (whose identity is also kept secret). After data have been recorded, returned forms are destroyed. Only totals are received by the association's statistical department to be worked into charts and graphs.

Typical form sent out by the association contains about 88 blanks—not all, of course, applicable to all firms. It's a quarterly survey, with forms going to more than 100 firms. The association estimates the cost for its census at about \$9,000/year.

Such extremes of secrecy are seldom practiced by others. The American Iron and Steel Institute and the American Petroleum Institute, for example, have earned the confidence of

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COLD MOLASSES"



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free-flowing
PETROLEUM SULFONATES

SONNEBORN'S new ISO-PETRONATES are free flowing at room temperature. Now, for the first time, 62% concentrates can be used where steam is not available or where heating is difficult, assuring easier handling, suggesting new applications.

ISO-PETRONATES are but one example of the ability of SONNEBORN to adapt Petroleum Sulfonates to meet specialized requirements.

Where you require emulsification and dispersion of liquids... dispersion and wetting of solids...wetting and dispersion of liquid-solid systems...inhibition of rust and corrosion...one of the SONNEBORN oil soluble or water soluble Petroleum Sulfonates could be your answer.

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- ☐ Please send me technical data on Sonneborn's new Petroleum Sulfonates.
☐ We need specific information. Please have your representative call.

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COMPANY _____
ADDRESS _____
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SPECIALTIES

their memberships to the point where they can do their own tabulation of returns.

These two groups, which offer weekly statistics on their industries, have exceedingly close cooperation from members. Because cooperation is almost a part of joining these groups, an extremely high (well in the 90s) percentage of the replies to questionnaires is received. But to keep turning out these statistics and evaluations, in the frequency demanded, requires full-time staffs.

Government Yardstick: Just what percentage of capacity or percentage of the industry a survey does cover is sometimes difficult to ascertain. With certain commodities, the government's Census of Manufacturers helps a surveying group determine its coverage.

The Soap and Glycerine group, for example, likes to compare its census figures with those from the government. By doing so, the percentage coverage of its own census can be found, and for periods where no comparison is available, a figure by which its results can be expanded can be found. A number of other statistical departments also depend upon government figures for comparison.

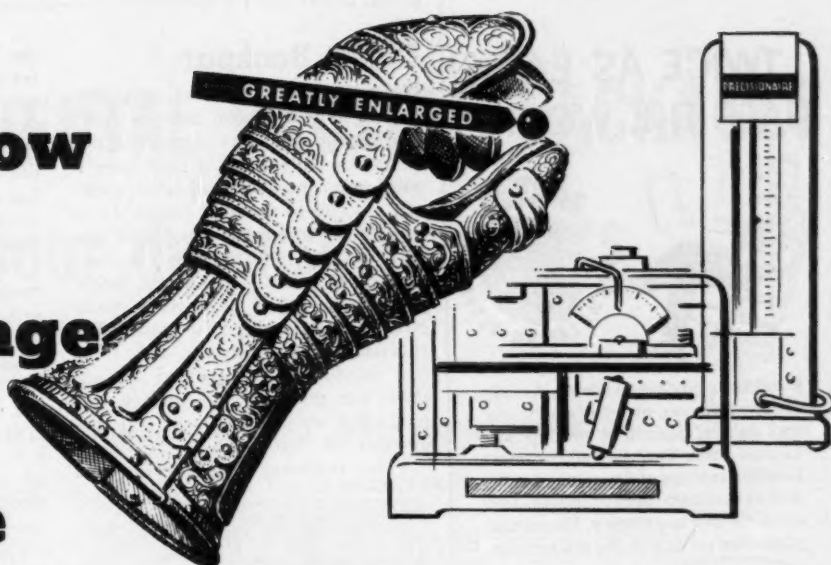
Recent budget cuts, therefore, have posed a problem. The situation is such that the census planned for this year will probably not be conducted—personnel to run it is simply not available. This will be a handicap to industry, which was counting on recent figures to work with—the last census covered 1947 production. Hopes are that the census will be made within two years.

Not everyone, of course, favors conducting a survey in his industry. There are those who feel that such a survey leaves them open to charges of agreeing on production, perhaps of price-fixing. In order to set up a survey, it is sometimes necessary to agree on standards for certain products—and such cooperative work by industry is viewed with suspicion by some firms and segments of the general public.

And results must not be kept from the public. The Iron and Steel Institute, for example, every week sends out portions of its surveys to publications.

There is little chance that privately conducted studies can be accurate to fractional percentages. But such surveys can still give a good picture of trends, and permit a firm to properly evaluate itself and its policies in relation to its competitors. And most firms participating in them appear to feel these benefits are well worth the trouble and expense.

how to throw down the gage to a gauge



NO MATTER what the calendar says, there's an area in the new Marlin-Rockwell Corporation plant at Falconer, N. Y., which has only one season the year-round. There, the temperature's always at 74 degrees and relative humidity is a constant 45%.

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Wigton-Abbott Corporation was assigned the challenging job of designing, equipping and constructing this modern plant with its exacting re-

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A principal point of interest is that Marlin-Rockwell now has the production capacity it wants, in less space than this prominent manufacturer originally thought would be needed.

Like so many of the assignments Wigton-Abbott Corporation has been awarded by leading business concerns, the Falconer plant has been designed with future expansion in mind.

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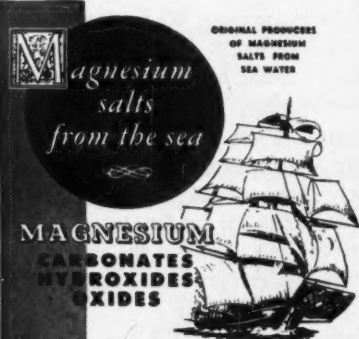
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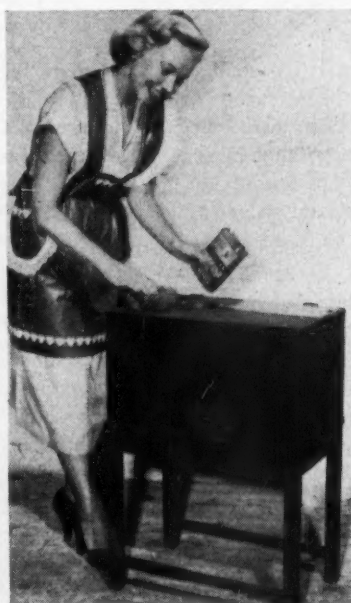
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SPECIALTIES.

Digest Backpat

Welcome word for some specialties makers is in the latest issue of *Reader's Digest*, which hit the newsstands last week. Blessing this time goes to paint removers and paint brush cleaners, as well as to latex paints. In its reports to consumers, the *Digest* emphasized how much easier it is these days to do painting around the house, picked out several products in particular that simplify the task. The specialties chosen pretty well cover the painting situation, and include those for readying the surface, the paint and ways to apply it, and suggestions on brush care.

Paint removers that got the nod



PAINT REMOVER: A kind word never hurt sales.

were Liquisan, produced by J. F. Kerns Co. (Chicago), and Paint Off, made by International Paint Co. (New York). Five latex paints, Corrotone (Corrotone Co., New York), Duraval (U.S. Gypsum Co.), Super KemTone (Sherwin-Williams Co.), Wallhide (Pittsburgh Plate Glass Co.) and Spred Satin (Glidden Co.) were tested by York Research Corp., and recommended; and though no brand names were given, roller coaters got a nice word.

For cleaning oil paints and varnishes from brushes and rollers, the *Digest* suggested a pair of cleaners—Glamorene Paint Brush Cleaner, made by Glamorene Co. (New York), and Add-A-Life Co.'s (Los Angeles) Add-A-Life.

Reaffirmation: In the same issue,

the *Digest* again took up the cudgel for instant, dip-type silver cleaners, to which it had given its recommendation last January (CW, Jan. 3). And, from talk in the trade, the cleaners can well use the bolstering—business has slanted off steeply since an article condemning them appeared in *Good Housekeeping* (CW, May 16).

In its follow-up, the *Digest*, referring only to a "consumer magazine," examined the objections one by one and effectively refuted them, using data from labs besides York, which had done the original work for RD.

Only the next few months can determine whether RD can again pump life into the fast-fading dip-type silver cleaner business. In the meantime, though, it's a good bet that painting supplies—some, at least—will enjoy a fine fall selling season.

Brands Again: The Newark, N.J., housing authority, after a year's trial at buying paint made to specifications, has returned to its system of buying branded paints. Painters claimed the specification paint has not worked out as well as branded material. At the same time, bids for 5,700 gallons of paint were authorized.

Quick Dry: Armour Research Foundation and Meyercord Co. demonstrated their long-under-development Chem-Dry process last week in Chicago. In this, sulfur dichloride speeds the drying of certain coatings—alkyds, melamine, and urea resins in drying oils can be hardened in 2-20 seconds. Action of drying is said to be different from ordinary oxidation or polymerization.

Eye Catcher: With a startling packaging gimmick, Quaker Oats Co. is now putting out its Puffed Wheat and Puffed Rice in boxes treated with fluorescent ink. Dealers can install an ultraviolet lamp (fits standard fixtures) to make the packages "glow." National Printing Ink Co. (Chicago) worked out the special ink—it's not to be confused with its silk-screen Dayglo inks—and says it is the only low-cost fluorescent ink on the market.

California Branch: J. I. Holcomb Co., Indianapolis industrial cleaning-chemical manufacturer, is planning a \$300,000 branch factory at Los Angeles.

New Step: B. M. Hallyburton, Portland, Ore., service station operator, has stepped into the manufacturing

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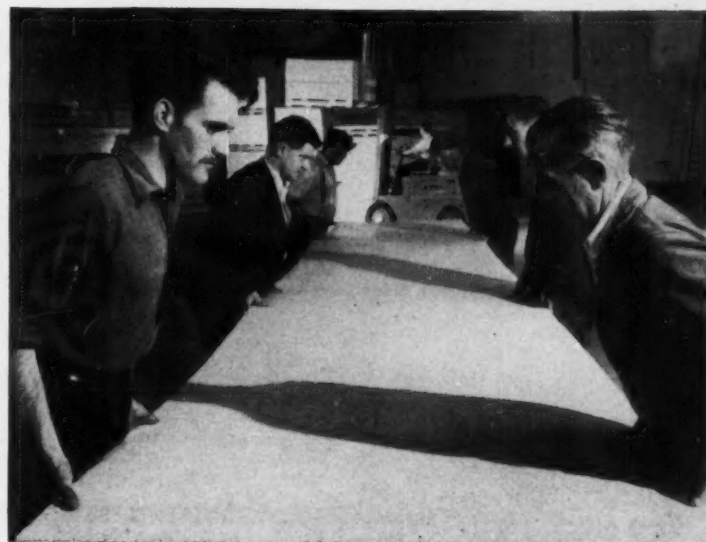
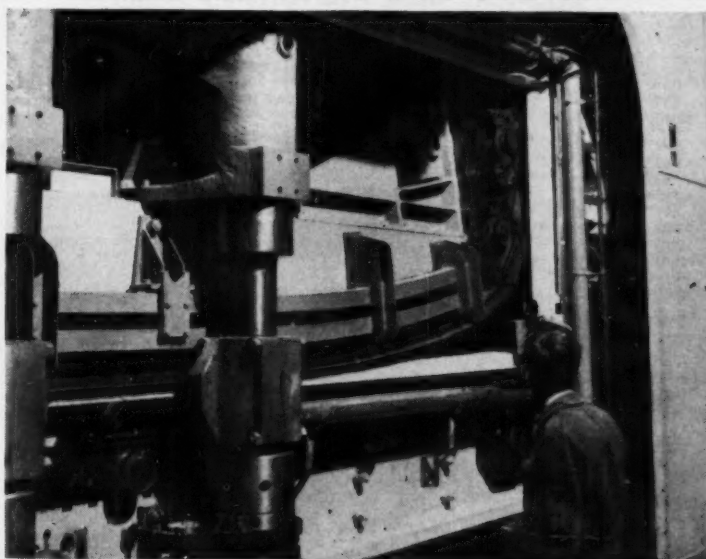
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business with the purchase of Hart Manufacturing & Sales Co. in that city. Hart makes a one-step auto polish and a windshield cleaner fluid, which are sold in the West.

Under Way: Construction has been started on expanded facilities of Sure-Seal Corp., wax refiners near Salt Lake City, Utah. Sure-Seal is installing sol-

vent-extraction equipment valued at about \$300,000, hopes to be in production by next summer.

Onion Progress: Herbicides have helped a Missouri farmer score a first. William Hellwig, who runs a vegetable farm there, can now pack the onion crop from his 500-acre farm directly in cellophane bags—use of chloro-IPC

CHEMICAL WEEK • ADVERTISING INDEX

OCTOBER 3, 1953

ADVANCE SOLVENTS & CHEMICAL CORP. 39	NINOL LABORATORIES 54
Agency—Asher, Godfrey & Franklin, Inc.	Agency—The Vanden Co., Inc.
AMERICAN AGRICULTURAL CHEMICAL CO., THE 21	PELAMAY PRODUCTS T62
Agency—Cowan & Dengler, Inc.	Agency—Cromwell Adv.
AMERICAN OPTICAL CO. 7	PFIZER & CO., INC., CHARLES 75
Agency—Sutherland-Abbott	Agency—McManus, John & Adams, Inc.
ARMOUR & CO. 24, 25	PITTSBURGH COKE & CHEMICAL CO. 68
Agency—Foots, Cone & Belding, Inc.	Agency—Walker & Downing
BADGER MANUFACTURING CO. 38	QUAKER OATS COMPANY, THE, CHEMICAL DIV. 1
Agency—Sanger-Funnell, Inc.	Agency—Rogers & Smith Adv.
BAKER CHEMICAL CO., J. T. 44	RHEEM MANUFACTURING CO. 17
Agency—Wildrick & Miller, Inc.	Agency—Campbell-Ewald Co.
BARRETT DIV., ALLIED CHEMICAL & DYE CORP. 63	SCHUTZ-O'NEILL CO. 3rd Cover
Agency—McCann-Erickson, Inc.	Agency—Foulke Agency, Inc.
CARBIDE & CARBON CHEMICALS CO., DIV. OF UNION CARBIDE & CARBON CORP. 37	SHELL CHEMICAL CORP. 2nd Cover
Agency—J. M. Mathes, Inc.	Agency—J. Walter Thompson
CARLISLE CHEMICAL WORKS, INC. 48	SINDAR CORP. B60
CHEMICAL INDUSTRIES EXPOSITION B64	Agency—Hazard Adv. Co.
Agency—O. S. Tyson & Co.	SONNEBORN SONS, INC., L. 78
CHESAPEAKE & OHIO RAILWAY 3	Agency—Hicks & Grist, Inc.
Agency—Robert Conahay & Assoc.	TENNESSEE CORP., MINERAL SALTS DIVISION 56
CHEMICAL CONSTRUCTION CORP. 26	Agency—Crawford & Porter, Inc.
Agency—Michel Cather, Inc.	UNION CARBIDE & CARBON CORP., CARBIDE & CARBON CHEMICALS CO. 37
CHEMICAL MANUFACTURING CO., INC. 66	Agency—J. M. Mathes, Inc.
Agency—Sterling Adv. Agency	U. S. RUBBER CO., MECHANICAL GOODS DIVISION 12
CONTINENTAL CAN CO. 81	Agency—Fletcher D. Richards
Agency—Batten, Barton, Durstine & Osborn, Inc.	U. S. STEEL CORP., STEEL PRODUCTS DIVISION 71
DAVISON CHEMICAL CORP., THE 55	Agency—Batten, Barton, Durstine & Osborn, Inc.
Agency—St. George & Keyes, Inc.	U. S. TESTING CO., INC. 30
DODGE & OLCOTT, INC. 34	Agency—Robert B. Grady Co., Adv.
DOW CHEMICAL CO., THE 5, 31	VICTOR CHEMICAL WORKS 18
Agency—MacManus, John & Adams, Inc.	Agency—Russell M. Seeds Co.
DRACCO CORP. 63	VULCAN COPPER & SUPPLY CO., THE 49
Agency—The Jayne Organization, Inc.	Agency—L. F. McCarthy Co.
DU PONT DE NEMOURS & CO., INC., E. I., GRASSLELLI DIV. 6	WARWICK WAX CO. 57
Agency—Batten, Barton, Durstine & Osborn, Inc.	Agency—Ben Sackheim, Inc.
EASTMAN KODAK CO. T64	WIGTON-ABBOTT CORP. 79
Agency—Charles L. Humrill Co., Inc.	Agency—Bozell & Jacobs, Inc.
EDWAL LABORATORIES, INC. 51	YORK CO., INC., OTTO H. 22
Agency—Sterling Adv. Agency Inc.	Agency—Mercready, Handy & Van Denburgh
EIMCO CORP., THE 4	
Agency—Matile Co.	
EMULSOL CORP., THE 36	
Agency—Edw. A. Grossfeld & Staff, Adv.	
ESSO STANDARD OIL CO. 23	
Agency—McCann-Erickson, Inc.	
FARRIS ENGINEERING CORP. 67	
Agency—Lewis Adv. Agency	
FRITZSCHE BROTHERS, INC. 2	
GLYCERINE PRODUCERS' ASSOCIATION 47	
Agency—G. M. Basford Co.	
GOODRICH CO., B. F., AMERICAN ARCADE DIV. 11	
Agency—The Griswold-Bailemann Co.	
HARDESTY CO., INC., W. C. 50	
Agency—J. Hayden Twiss Adv.	
HERCULES POWDER CO. 72	
Agency—Fuller & Smith & Ross, Inc.	
HEYDEN CHEMICAL CORP. Back Cover	
Agency—Sommers-Davis, Inc.	
HUDSON PULP & PAPER CORP. 42-43	
Agency—G. M. Basford Co.	
INNIS, SPEIDEN & CO., INC. 35	
Agency—Sterling Adv. Agency	
INTERNATIONAL MINERALS & CHEMICAL CORP. 29	
Agency—C. Franklin Brown, Inc.	
MARINE MAGNESIUM PRODUCTS B80	
Agency—Long Adv. Service	
McLAUGHLIN GORMLEY KING CO. T80	
Agency—The Alfred Colle Co.	
MERCOLD CORP., THE B62	
METAL & THERMIT CORP. 40	
Agency—Raf Adv., Inc.	
METASAP CHEMICAL CO. 76	
Agency—Lewin, Williams & Baylor	
MICHEL & CO., INC., N. T60	
MONSANTO CHEMICAL CO., ORGANIC DIVISION 58	
Agency—Gardner Adv. Co.	
MUTUAL CHEMICAL CO. OF AMERICA 8	
Agency—J. Hayden Twiss Adv.	
NATIONAL CARBIDE CO., DIV. OF AIR REDUCTION CO., INC. 61	
Agency—Fuller & Smith & Ross, Inc.	
NATIONAL CARBON CO., DIV. OF UNION CARBIDE & CARBON CORP. 33	
Agency—Wm. Esty Co., Inc.	
NATURAL PRODUCTS REFINING CO. 41	
Agency—Michel Cather, Inc.	

tracers SECTION (Classified Advertising) H. E. Hilty, Mgr.

CHEMICALS: Offered/Wanted 83
EMPLOYMENT 82
EQUIPMENT: Used/Surplus New For Sale 82
Wanted 83
MANAGEMENT SERVICES 82
BUSINESS OPPORTUNITIES 83

ADVERTISING STAFF

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Los Angeles 17 Jos. H. Allen, 1111 Wilshire Blvd., Madison 4-4323
New York 36 Knox Armstrong, Robert S. Muller, L. Charles Todaro, 820 West 42 St., Longacre 4-9000
Philadelphia 3 William B. Hannum, Jr., Charles F. Onasch, Architects Bldg., 17th & Sansom Sts., Rittenhouse 4-0670
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SPECIALTIES

gave a weed-free onion patch suitable for the packing trick.

•
Moniker Switch: The Ohio Falls Dye and Finishing Works Co., Louisville, has changed its name to Ohio Falls, Inc. Ownership and management will remain the same.

•
Good Year: Clorox Chemical Co. had its most successful sales year in July '52-June '53, the company's recent financial statement reveals. And at a stockholders' meeting last week, authorization for increasing capital stock from 360,000 to 750,000 shares was asked for and granted.

•
Georgia Plant: Arrangements have been completed in Douglas, Ga., for the erection of a new fertilizer plant to be operated by C. O. Smith Fertilizer Plant of Moultrie. The 65,000-sq.-ft. plant is not expected in full production until next spring, although some fertilizer will be produced this fall.

•
Coming East: Berkshire Chemicals, Inc. (New York) is now Eastern distributor for the agricultural products of Universal Detergents, Inc. (Long Beach, Calif.). Principal Udet products are surface-active agents for use in fertilizers, insecticides, fungicides.

•
More for Mohawk: Mohawk Brush Co. (Albany, N.Y.) is expanding facilities and will go into the manufacture of silicone kitchen cleaners and polishes.

•
Trebled: Highland Laboratories (Los Angeles), drug and biological manufacturing firm, is moving into new facilities. Cost of land and new equipment for 88,000-sq.-ft. building: nearly \$1 million. The new plant consolidates activities previously performed at four Los Angeles plants, will treble production capacity.

•
Waterfoilers: Inertol Co., Inc. (Newark, N.J.) is now introducing a new type paint for coating wet walls. Tagged Dampfoil, the new product is an acrylic emulsion coating, is said to offer excellent adherence and sealing qualities, and it can be applied on wet surfaces. The paint is said to be odorless, and to dry in 15 minutes. It's used without a primer; a second coat may be applied within an hour.

•
Another waterproofing product, an additive for cement, has been cut in price. Shield Chemical Corp., (Verona, N.J.) last week dropped the price of its Drycrete from \$2.70/gal. to \$1.80/gal.—improved production, high sales permitted the cut.

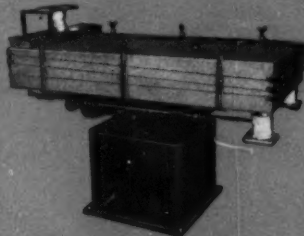
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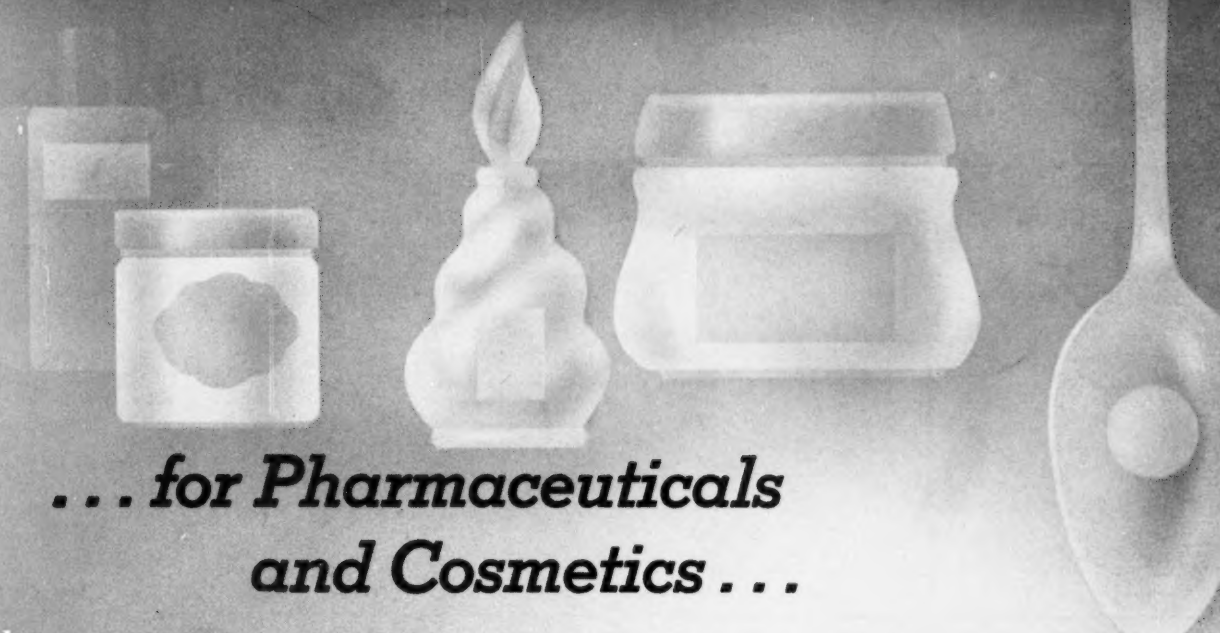
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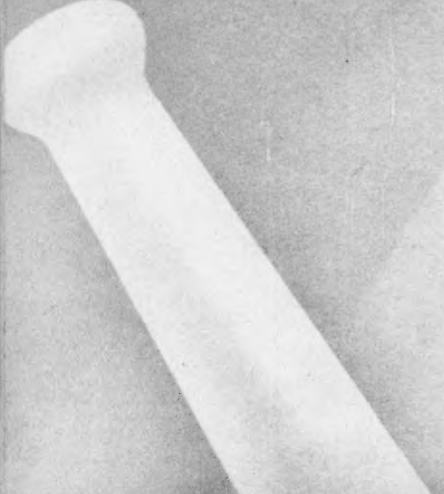
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